

# Consumer

BUDWEISER

The Original Consumer Magazine

Writing and Reporting on Products Since 1919



## 35MM CAMERAS

**'Magic' crankcase-potions  
Contact lenses  
Hot-water heaters**



## THOSE ? ! \* @ i PARKING METERS!

**Slide projector  
Hamilton washer  
Hazards of lightning**

POWER  
FLOWERS

13 rotary  
3 reel





*Hamilton*



## Hamilton automatic clothes washer

A complete report on the results of tests on automatic washing machines, including ratings of 14 models, appeared in the May 1959 issue of *Consumer Bulletin*. Machines reported on included Easy, Frigidaire, General Electric, Hotpoint, Kelvinator, Kenmore, Maytag, Norge, Philco-Bendix, RCA Whirlpool, Speed Queen, and Westinghouse.

The Hamilton washer on which the original tests were made failed in the electrical safety tests, and when a new sample was received, there was not sufficient time before publication to permit carrying out the complete series of tests on the second sample. The accompanying article reports the results of the tests by Consumers' Research on the Hamilton washer.

ADDITIONAL TEST WORK was conducted on a new sample of the *Hamilton* clothes washer (as was promised in the May 1959 issue of *CONSUMER BULLETIN*), since the first sample failed in one of the electrical safety tests. The failure occurred in a component part judged to be defective and was not attributable to the design of the washer itself. In view of the satisfactory performance of two additional samples having component parts of the same type, CR believes that the defect previously reported is not to be characteristic of the *Hamilton*.

The *Hamilton* washer proved to be not very different from the *Norge*. It offers about the same flexibility in operation and washing performance; it will handle loads weighing up to about 7 pounds, and it uses a relatively large quantity of water—26 gallons hot, 17 gallons cold—on the Normal Cycle. The Normal (long) Cycle takes about 38 minutes to wash, rinse, and spin, and the Wash-and-Wear (short) cycle takes about 24 minutes. The so-called "wash-and-wear" cycle does not include a cool-down fill at the end of the wash period before spinning to reduce wrinkling, which is provided on several other washers. The *Hamilton* is a top-loading machine, is equipped with a pressure water-level control (the desirable type), is quiet in operation, and does a good job of

washing clothes. The machine is equipped with a switch in the lid and brake on the tub so that when the lid is raised the tub will stop spinning in a few seconds—an arrangement that is very desirable for safety reasons.

The *Hamilton* washer offers four washing temperatures, hot, medium, warm, and cold, and three rinsing temperatures, warm, cool, and cold. It has provision for stopping the water fill at any point by pushing a button, and both wash and spin actions can be set separately for fast or slow operation.

### A. Recommended

**Hamilton 400, Model 4T82** (Hamilton Mfg. Co., Two Rivers, Wis.) \$370. Finish: top and lid, porcelain; sides, enamel; tub, porcelain. Agitator, plastic. Effectiveness in washing was good with loads up to 8 lb., but an 8-lb. load slightly overfilled the tub. The *Hamilton* used a large amount of water, 43 gal. (26 hot, 17 cold) for washing a full load. This would be an important consideration where water is scarce or expensive, or where disposal of the water would present a problem. Water left in clothes after final spin and electricity required to wash a load were about average.

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### TEST DATA (for normal cycle)

Capacity Rated.....	8.9 lb.
Actual.....	7 lb.
Cycle time Long.....	38 min.
Short.....	24 min.
Water used Hot.....	26 gal.
Cold.....	17 gal.
Water left in clothes, % of dry weight.....	80%
Electricity.....	200 watt-hr.
Thermostatic valve.....	No
Dimensions Width.....	26 in.
Depth.....	27 in.
Length.....	52 in.

## *The Consumers' Observation Post*

WILL LOWERING BLOOD CHOLESTEROL LEVELS by use of drugs or by a change in the diet reduce the probability of arteriosclerosis? The answer to this question is a matter of continuing debate among medical men, of particular interest in view of the fact that "hardening of the arteries" usually leads to a heart attack. Many physicians are advising elimination of hydrogenated fats of all kinds and recommending in their place oils containing unsaturated fatty acids as found naturally in fish and vegetable oils. One company is now marketing a margarine known as Emdee Margarine based on the use of corn oil that has not been put through the customary hydrogenation process. The price, however, is a dollar a pound for the product, which is sold at drugstores.

\* \* \*

WINDSHIELD WASHING PREPARATIONS should be used with care to avoid ruining automobile paint. Automotive News carries a warning from a service publication that windshield washer solvents containing methanol are definitely harmful to an acrylic finish and may cause etching of the paint. The magazine advises washing off immediately any windshield solvent spilled on the car and flushing the spot thoroughly with water.

\* \* \*

WHAT IS A "COLORFAST" FABRIC? The American Institute of Laundering says there is no such thing. Some fabrics may retain their colors so well that no noticeable change in shade takes place during the normal wear-life of the garment, but they do lose color. More often a fabric is fast to washing, to sunlight, or to bleeding, perhaps to all three. But there is also need for colorfastness to perspiration and to crocking. Colorfastness to bleeding is particularly important for the woman who wants to put the family clothes in the automatic washer with a minimum amount of sorting. Fabrics that bleed may stain other fabrics, particularly white and pastel colors. If a garment is properly labeled, the label will indicate its performance with respect to colorfastness in all these aspects.

\* \* \*

THE POWERFUL NEW PESTICIDES now being used in periodic spray programs over wide areas are potential mechanisms of unknown dangers to human health. According to Dr. Malcolm M. Hargraves, consultant in medicine at Mayo Clinic, case histories indicate an association between hydrocarbon insecticides and such blood diseases as aplastic anemia, leukemia, and the lymphomas. In a panel discussion in New York City earlier this year, Dr. Hargraves warned that susceptible persons exposed to such poison agents intermittently may develop a marked sensitivity so that a subsequent exposure to the material may have disastrous consequences.

\* \* \*

THE LITTLE CIGARS that are packaged to look like cigarettes may cost the purchaser more in the future. They have been taxed as cigars, at a lower rate than cigarettes. Recently, The Wall Street Journal reported that the Internal Revenue Service is asking manufacturers why the product should not be taxed at the cigarette rate of 8 cents a package, instead of at 1-1/2 cents a pack as cigars.

\* \* \*

WHEN MOTHER BEGINS to feel tired and run-down, the chances are she needs just a rest, not medicine. According to Dr. Leonard L. Lovshin, Cleveland, the "tired mother" symptoms are easily accounted for. She usually has a workday of 16 hours, 7 days a week, and probably she hasn't had a real vacation in years. She has one to several children and often some animals. Dr. Lovshin's study shows that a puppy dog equals about 1-1/2 children and a female cat with a litter about 2. He suggested that mother needed a reduction in her work load, instead of tranquilizers, which might better be administered to the husband, the children, and the dog.

THOSE NEW "BOIL-IN-A-BAG" FROZEN FOODS that are making an appearance in certain sections are expected to become quite popular because of their ease of preparation. Where the pre-cooked frozen foods in foil containers take about half an hour in the oven, the boil-in-a-bag items can be ready in 10 minutes after they are placed in a pan of boiling water. There will even be items small enough for individual servings, a great boon to those who are a family of one at times. Fox Deluxe Foods, Inc., and Wilson & Co., of Chicago, are experimenting with the new process, and so is Seabrook Farms of Bridgeton, N. J.

\* \* \*

CHANGE THE HAIR from naturally straight to naturally curly? It can't be done with Max Factor's Natural Wave preparation, ruled the Federal Trade Commission, ordering the company to cease and desist from making such claims. Nor will the product change the structure of the hair as claimed, according to the Commission's findings.

\* \* \*

THE ELECTRIC AUTO continues to intrigue inventors. Several such cars have made their appearance in recent years. The latest battery-powered job to receive attention in the public press is called the Charles Town-About turned out by Stinson Aircraft Tool & Engineering Co. of San Diego, California. According to The Wall Street Journal, the car is to be priced at \$2800 to the general public. Its power comes from two 3.2-horsepower motors that draw current from four batteries under the floor that must be recharged every 100 miles or less (often a good deal less in town driving or where there are hills). Charging is said to be easily accomplished by a connection from ordinary 110-volt household outlets. The car can seat two adults in front and two children or one adult in the back seat. It works best on very flat, level terrain.

\* \* \*

CREDIT IS NOT FREE in most cases, except for short term, 30-day charge accounts. It costs money to hire money. According to one estimate, you pay an average of 1-1/2 percent service charge on unpaid balances in revolving credit accounts, and about 1 percent per month on the unpaid balance on banks' line of credit. That 1-1/2 percent per month can cost you as high as 18 percent a year, a really sizable rate of interest.

\* \* \*

THOSE BODY BUILDING "HEALTH INSTITUTES" have become quite fashionable. Their services are sold on a contract basis ranging from one year to life, for a wide variety of operations from massage treatments to gymnastic exercises with various pieces of equipment. Some measure of their popularity may be gathered from the fact that, in March 1959, the sudden termination of operations of a "national health organization" in Philadelphia was reported to have left at least 10,000 holders of "lifetime certificates" holding the bag, with no recourse whatever. It's a little hard to see why anyone would sign up for a "lifetime privilege" of exercising in a gymnasium or health salon, considering the uncertainties involved, but anyone who does should give a thought to the hazards of getting his or her money back before signing any such contract in the future.

\* \* \*

IN MAKING CUCUMBER PICKLES, the old practice of putting some grape leaves in the brine improves the resulting product. This old-fashioned technique has provided a clue for scientists at the North Carolina Agricultural Experiment Station and the United States Department of Agriculture who discovered that the enzymes that break down the structure of cucumbers were inhibited by certain substances extracted from grape leaves. The grape leaves prevented softening of the cucumbers, and the experts are now developing enzyme-inhibiting substances for commercial use.

(The continuation of this section is on page 37)

# Consumer Bulletin

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Listings usually are arranged in alphabetical order by brand name (not in order of merit) under each quality or performance rating. A numeral 1, 2, or 3 at the end of a listing indicates relative price, 1 being low, 3 high. Where the 1, 2, 3 price ratings are given, brands in the 1, or least expensive group, are listed alphabetically, followed by brands in price group 2, also in alphabetical order, etc. A quality judgment is wholly independent of price.

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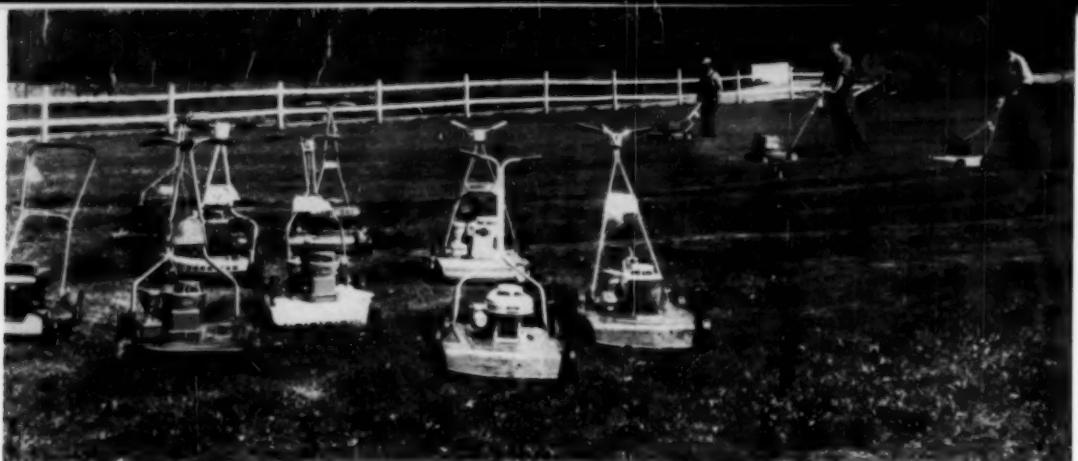
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## Rotary power lawn mowers

AT Fort Jackson, South Carolina, the Army has solved the problem of lawn mowing by using a herd of 15 goats to keep 12 acres in good condition. The goats are trouble-free, says the newspaper story, never need maintenance, eliminate manpower, and cost next to nothing to keep. Most important, there is not much hazard of being seriously hurt by a goat as there is with a rotary power lawn mower. Unfortunately for the vast majority of people with lawns, the use of goats (or sheep) for mowing is not feasible, either because of zoning restrictions that prohibit the keeping of farm animals, or the size of the lawn to be cared for being insufficient to keep even one goat in a good state of nutrition. Goats, too, have a way of not confining their activities to grass, but will eat valuable shrubs, bushes, and trees.

Even persons with very small lawns which can be easily cut with a hand lawn mower and really do not call for power mowing are buying rotary gasoline power mowers, which can now sometimes be purchased at prices as low as \$28. Sales of rotary power mowers exceed those of power reel-type mowers in the ratio of about 11 to 1. The reasons, of course, are obvious; the rotary mowers are cheap, are easy to maintain, and do a better job of cutting lawns in which there is an admixture of weeds, and they cut much better on rough ground than the reel type.

Rotary power mowers can be exceedingly dangerous, as evidenced by the news items reproduced on page 10. Let no one try to convince you otherwise. In the city of Dayton, Ohio, investigation of the records of four hospitals disclosed that an average of 22 to 25 patients per week have been treated during the summer season for injuries caused by power lawn mowers. In all these cases occurring in Dayton, the accidents were attributed to carelessness, but there are many power mower

accidents which do not reflect any fault of the operator other than being unaware of the terrible injuries a momentary slip or accident with a rotary mower can produce. A columnist writing in the Charlotte (North Carolina) News tells of his own experience. He failed to clear the lawn before using the mower. The blade picked up a rock which clipped him like a rifle bullet, as he can prove by "a neat, 12-stitch scar just below the knee." He commented that he was the seventh mower casualty that day to be brought into the hospital. He noted further that "most all property owners know of somebody who has gotten hit by a rock, whirled off the mower's blade or broken out a window with a flying object."

If you are planning to buy a rotary mower of the type you walk behind, by all means choose one you have to push in preference to a power-propelled type; the latter is potentially far more dangerous, in that the operator may lose control and the mower run away or overturn. Some mowers are easy to push, and where the ground is relatively level it is not necessary to use a power-propelled (self-propelled) mower. If the area to be cut is too large for a rotary mower that is pushed by the user, a riding mower should be considered. One of these, if properly designed, is much safer *for the operator* than the usual rotary mower which the user walks behind.

### Safety rules for the operation of power mowers

If the suggestions which follow are carefully observed at all times, the possibility of a serious accident with a well-designed mower can be greatly reduced, though certainly there can be no assurance in any case that an accident or injury will not occur due to some unforeseen occurrence or defect.

1. Inspect and rake the lawn carefully before each mowing and remove all foreign objects such as sticks, stones, bones, hose nozzles, bits of wood, wire, and glass, golf balls, and all other debris. Projecting stumps, roots, or outcroppings of rock in your lawn should be removed or clearly marked so they can be avoided.

2. Never allow children and pets to be or play near where you are mowing. It is especially important that when anyone is near by, unavoidably, neighbors or passers-by, the mowing should proceed in such a manner that the discharge chute is never pointed in their direction.

3. Always keep well away from the mower when it is running, and do not attempt to make any repairs or clear a plugged-up chute until the engine is shut off and the spark plug wire disconnected.

4. Never leave the mower running while it is unattended.

5. Never allow any young child to operate a rotary mower.

6. Don't use a mower when the grass is wet; slippery grass adds greatly to the hazards.

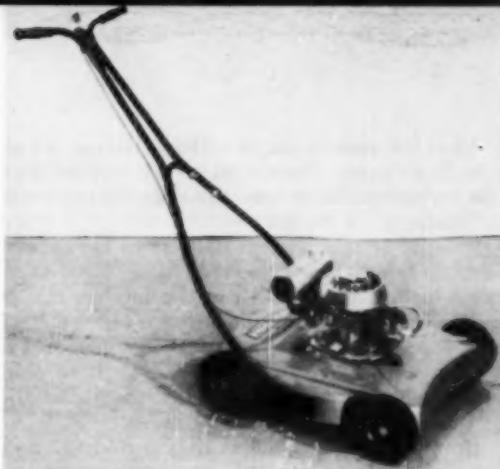
7. Use a hand-operated reel mower on sloping ground. Many accidents occur in use of a power mower on terraces or sloping banks.

#### 2-cycle versus 4-cycle engines

Two-cycle engines have been used for outboard motors for many years with complete satisfaction, and they are quite satisfactory for lawn mower use, provided they do not smoke and the exhaust does not come into one's breathing zone, and provided one does not object to the inconvenience of mixing a little oil with the gasoline.

Actually the 2-cycle engines are smaller for a given power output, have fewer moving parts than 4-cycle engines, and are less expensive to overhaul and repair. With a 2-cycle engine, there is a power stroke for each revolution of the crank-shaft whereas a 4-cycle engine has a power stroke for each two revolutions of the crankshaft; thus the 2-cycle engine gives a smoother flow of power and less vibration. When a 2-cycle engine gets old, it may smoke badly and, if this occurs, the engine should be repaired by an expert, or taken out of use (health hazard).

All of the mowers had an adequate range of adjustment for cutting height (see page 8). It would probably be much safer, however, if the cutting height were limited to a minimum of  $1\frac{1}{2}$  inches, as there would be less likelihood of the blade's picking up and projecting small objects than with the blade set to a lower cutting height. In point of fact, use of a  $1\frac{1}{2}$ -inch cutting height will produce a better lawn throughout the season than is obtained by closer mowing.



Sears



Toro Whirlwind 21



Lawn-Boy Quietflite

All of the mowers cut to within 1 inch or less of a wall or fence. Nearly all of the mowers had offset wheels, a design used to reduce the tendency to "scalping" of the lawn.

Because of the inherent dangers in use of any and all rotary power mowers, none have been rated higher than *B*. All of the mowers tested except the *Sears* had built-in recoil rope starters and, unless otherwise noted in the listings, had a friction washer drive on the blade shaft to help prevent damage to the engine should a solid object be struck by the revolving blade.

Brands are listed alphabetically within 1, 2, and 3 price brackets in the *B*, *B*-, and *C* rated groups.

#### B. Intermediate

**Cooper Aladdin 21"** (Cooper Mfg. Co., Marshalltown, Iowa) \$107.50. Engine: Briggs & Stratton Model 81502, rated at  $2\frac{1}{2}$  hp. Very well guarded chute had three guard rods set at an angle covering the opening. Rear deck extended 4 in. beyond tip of blade (desirable). Caution warning judged satisfactory. Engine could be stopped by use of control on the mower handle (a good safety feature). Quick-change cutting-height adjustment (good). Performance: Did a good job of mowing with good distribution of the cut grass except with heavy, wet clippings, when guard fingers caused clogging of chute and deposit of the grass in clumps. (Instructions recommend removal of guard fingers under such conditions. This, of course, should be done with engine shut off.) Easy to push (handle was adjustable for height and mower had ball bearings in wheels). Maneuverability, good. Weight, 64 lb. Judged the safest rotary mower in the group tested. **2**

**Sears** (Sears-Roebuck's Cat. No. 99-8812) \$33.66, plus freight. Has been on sale in some stores at \$28. Engine: Power Products, 2-cycle, rated at 2 hp. Mower well guarded except at chute. Carried a conspicuous caution warning. Rope start. Changing of cutting-height adjustment was difficult and time-consuming. Throttle control on handle, but engine had to be shut off at spark plug. Performance: Did a good job of mowing, with good distribution of clippings. Very easy to push and maneuver on account of its light weight. Weight, 41 lb. At its price this mower was considered excellent value. **1**

**Bolens, Model 7122** (Bolens Products Div., Food Machinery & Chemical Corp., Port Washington, Wis.) \$65. Engine: Lautson V-22H-2-223, rated at  $2\frac{1}{4}$  hp. Mower well guarded except at exit chute. Did not carry a warning to keep hands and feet away. Changing cutting-height adjustment was difficult and time-consuming. Performance: Did a good job of mowing, with good distribution of clippings. About average in ease with which it could be pushed. Maneuverability, good. Weight, 56 lb. **2**

**Bolens, Model 7222** (Bolens Products) \$90. Engine: Briggs & Stratton Model 81502, rated at  $2\frac{1}{2}$  hp. Mower well guarded except at exit chute. Did not carry a warning to keep hands and feet away. Changing of cutting-height adjustment was difficult and time-consuming. Engine could be stopped by use of a control on mower handle. This and the step-on starter were judged desirable safety features. Performance: Did a good job of mowing, with good distribution of clippings. Mower was hard to push, partly because handle was not adjustable to a low enough position. Maneuverability, good. Weight, 66 lb. **3**

#### ROTARY POWER

Brand	Price, \$	Rated hp.	2-cycle or 4-cycle	Width of cut, in.	Height of cut adjustment, in.	Distance of blade from chute exit, in.
Bolens 7122	65.00	2.25	4	22.0	1.5 -3.0	3.0
Bolens 7222	90.00	2.5	4	22.0	1.5 -3.0	3.0
Cooper Aladdin 21"	107.50	2.5	4	21.0	1.5 -3.0	4.0
Eclipse Duo-Master F-20	100.00	2.25	4	20.0	1.25-3.25	3.5
Jacobsen Scepter 20	99.50	2.25	2	20.0	1.00-3.00	3.0
Lawn-Boy DeLuxe 7210	100.00	2.5	2	21.0	1.00-3.00	3.0
Lawn-Boy Quietflite	114.50	2.5	2	19.0	0.75-2.75	3.0
Lawnmaster LM-104	110.00	2.5	4	21.5	1.0 -3.25*	1.5
Moto-Mower Catalina	100.00	2.5	4	21.0	1.0 -2.5	4.0
Sears	28.00**	2.0	2	20.0	1.3 -1.6	0.25
Snark 66	40.00	2.5	4	22.0	1.0 -2.5	4.75
Toro Whirlwind 21	100.00	2.5	4	21.0	1.0 -3.0	3.0†
Yard-Man 2000-0	100.50	3.0	4	21.0	0.5 -3.0	2.0

\* See listing.

\*\* An advertised sale price. Regular catalog price, \$33.66, plus freight.

**Eclipse Duo-Master F-20** (The Eclipse Lawn Mower Corp., Prophetstown, Ill.) \$100. Engine: Briggs & Stratton Model 61702, rated at 2 1/4 hp. Well guarded except at exit chute. Mower had warning in raised 1/2-in. letters over chute exit, but not painted in a contrasting color as it should have been. Engine could be stopped by use of a control on the mower handle. Changing of cutting height was difficult and time-consuming. Performance: Did a good job of mowing, with good distribution of clippings. Easy to push (had ball bearing wheels). Maneuverability, good. Weight, 60 lb. 3

**Jacobsen Scepter 20, Model 8320** (Jacobsen Mfg. Co., Racine, Wis.) \$99.50. Engine: Jacobsen Hi-Torque, 2-cycle, rated at 2 1/4 hp. Cutter consisted of four replaceable sickle-bar-type knives, each fastened by a single bolt to a large metal disk. If a solid object is struck, the knives are forced back. Mower was well guarded except at exit chute and had adjustable front guard. This should be kept at lowest possible setting. Caution warning judged adequate. Quick-change cutting-height adjustment (good). Engine could be stopped by use of a control on mower handle. Performance: Did a good job of mowing, with good distribution of clippings. Although wheels had ball bearings, mower was somewhat hard to push. Those who prefer a 4-cycle engine can purchase the Jacobsen Archer Model 8320 at \$89.50, which is the same as the Scepter except that the Archer is equipped with a Briggs & Stratton 2 1/2-hp. 4-cycle engine. Weight, 69 lb. 3

**Lawnmaster DeLuxe 22 LM-104** (The Lawnmaster Co., Inc., subsidiary of Detroit Harvester Co., Richmond, Ind.) \$110. Engine: Briggs & Stratton Model 81502, rated at 2 1/2 hp. Mower well guarded except at exit chute, but did not carry a warning to keep hands and feet away. Quick-change cutting-height adjustment

effective over a range of 1 1/4 in. in four ranges; to change to a different range, it was necessary to remove wheels and place axle studs in different holes. Engine could be stopped by a control on mower handle (desirable). Performance: Did a good job of mowing, with good distribution of clippings. About average in ease of pushing and maneuverability. Weight, 60 lb. 3

**Moto-Mower 21 Catalina** (Moto-Mower Inc., subsidiary of Detroit Harvester Co., Richmond, Ind.) \$100. Engine: Briggs & Stratton Model 81502, rated at 2 1/2 hp. Mower well guarded except at chute. Carried a caution warning, but it was small and not conspicuous. Quick-change cutting-height adjustment, on front wheels only; on rear wheels, it was necessary to remove wheels and change the axles to different holes. Recoil starter rope was extended to mower handle. Motor could be stopped by control on handle. (Both good safety features.) This mower had no engine-shaft protection device. Performance: Did a good job of mowing, with good distribution of clippings. Easy to push and maneuver. Weight, 53 lb. 3

**Yard-Man 21, Model 2000-0** (Yard-Man Inc., 1410 W. Ganson St., Jackson, Mich.) \$109.50. Engine: Briggs & Stratton Model 80702, rated at 3 hp. Engine had aluminum alloy cylinder (no cast-iron liner), see listing of Snark. Mower was well guarded, except at chute. Caution warning judged adequate. Fully enclosed V-belt drive from engine to blade shaft, engaged and disengaged by a foot pedal. This clutching action permits the engine to run without turning the blade, thus tending to increase safety in starting and when the engine is idling. Changing of cutting-height adjustment was done by moving each wheel axle stud to a different hole. This was not as difficult and time-consuming as on other makes using a similar method, as the nuts and studs on the Yard-Man

#### MOWER SPECIFICATIONS

Body material	Quick-change cutting height adjustment?	Wheels offset?	Type of wheel bearings	Leaf mulcher furnished?	Weight, lb.	Brand
Steel	No	Yes	Nylon	No	56	Bolens 7122
Steel	No	Yes	Nylon	Yes	66	Bolens 7222
Steel	Yes	Yes	Ball	Yes	64	Cooper Aladdin 21"
Steel	No	Yes	Ball	Extra	60	Eclipse Duo-Master F-20
Steel	Yes	Yes	Ball	Yes	69	Jacobsen Scepter 20
C Al	No	Yes	Plastic	Extra	48	Lawn-Boy DeLuxe 7210
C Al	Yes	Yes	Plastic	Extra	57	Lawn-Boy Quietflite
Steel	Yes*	Yes	Steel	Yes	60	Lawnmaster LM-104
C Al	Front only	Yes	Steel	Yes	53	Moto-Mower Catalina
Steel	No	No	Steel	Yes	41	Sears
Steel	No	Yes	Steel	Yes (2)	61	Snark 66
C Al	Yes	No	Powdered metal	Yes	60	Toro Whirlwind 21
Steel	No	No	Steel	Yes	72	Yard-Man 2000-0

\* With bagging attachment removed.  
C Al—Cast aluminum.

# Freak Mower Mishap Kills Noted Horseman

A widely known [redacted] horse breeder, trainer and judge was killed Monday afternoon by a small piece of baling wire that was shot into his chest by the blades of a rotary power mower.

The victim, [redacted] 46, died of a pulmonary hemorrhage, according to the autopsy report. The accident occurred as he mowed the lawn on his ranch in [redacted].

[redacted] coroner, said the blades of the mower cut the wire. A piece of it about one-inch long was flipped back and up, striking [redacted] in the chest.

An autopsy performed by Dr. [redacted] deputy coroner, showed that "the wire pene-

trated the right chest wall, passed through the upper lobe of the right lung and lodged in the soft tissue between the third and fourth thoracic vertebrae."

## Tot Recovering From Removal Of Right Foot

[redacted], 3, of [redacted] was recovering Wednesday after amputation of her right foot following a mower accident.

## Man Loses Two Toes in Mower

[redacted] of [redacted] Ave., lost two toes on his left foot in a power mower Saturday evening.

Mrs. [redacted] said her husband was mowing up a slight incline and apparently slipped on the wet grass.

## Man's Condition Is Critical After Mower Accident

[redacted], 50, of [redacted] road, [redacted] was in critical condition at [redacted] Medical Center today with injuries inflicted by a power lawn mower at his home late Saturday afternoon.

[redacted] suffered severe shock and cuts and crush injuries of the first and second toes of his

## BOY, 4, HIT BY POWER MOWER MISSILE, DIES

A four year old boy died in Hospital, Wednesday, of injuries suffered when he was struck in the face by a piece of wire that had been hurled thru the air by a power lawn mower.

The boy, [redacted] was hit under one eye by an 8 inch length of copper wire as his father, [redacted] cut the lawn.

**Wire Pierces His Brain**  
The wire pierced the boy's skin and apparently entered the brain, a hospital spokesman said. [redacted] died from loss of blood and blood poisoning.

## Mower Blade Soars Through Wall Into

[redacted] was standing in the kitchen of his daughter's home at [redacted] dr., [redacted] last Thursday, when he heard an explosion and saw small pieces of plaster falling around him. At that same moment, [redacted], who was cutting the lawn at his brother-in-law's home two doors away, also heard a bang. He examined his power mower, and saw that a cutter tip—which

## Mower Blade Sails Out and Kills Neighbor

[redacted] 58, chatted with his neighbor, [redacted] then strolled across the street toward home. [redacted] returned to mowing his lawn.

The power lawn mower threw its blade. The blade sailed across the street and sank into [redacted]'s back. It punctured his

## Boy Hurt By Power Mower

Doctors at [redacted] Hospital here were working Wednesday to save the forearm of [redacted], 15, [redacted]. Doctors were told he was riding behind a power mower Tuesday when it pitched over an embankment and the lad's arm was struck by the whirling blade.

## 'Bee Sting' Cuts Off Boy's Foot

[redacted], 15, was cutting a neighbor's lawn Friday when he felt a pain in the left foot. He thought it was an insect sting.

He glanced at his foot and fell to the ground. The rotating blade of the power mower had sheared it off at the ankle. "I thought I was bit by a bee until I looked down and saw my foot had been cut off," he said.

## Man Loses Leg After Fall from Power Mower

[redacted], 13, of [redacted] av., was reported in fair condition Monday in [redacted] Hospital. Surgeons amputated his left foot Sunday night after he fell off a sulky of a power lawn mower at the home of his uncle.

[redacted] was bolted to one end of the blade—had come loose and disappeared. He bought a new tip. Yesterday, [redacted] daughter, [redacted] noticed something jutting from the kitchen wall, a few inches from where he had been standing, after soaring over an intervening house and ripping through the shingle wall. The metal traveled about 100 feet.

Most of the tragic accidents in the above newspaper stories occurred in July, August, and September of 1958.

were readily accessible. Engine could be stopped by a control on mower handle (good). *Performance:* This mower, which was the heaviest tested, was very tiring to push. It did a good job of mowing and distributing clippings, but with a slight breeze blowing there was a tendency for the clippings from the centrally located chute to be blown over the operator. Belt replacement required removal of engine and was somewhat difficult to accomplish. Weight, 72 lb. 3

#### C. Not Recommended

**Snark, Model 66** (General Mower Corp., Buffalo 7) \$40. *Engine:* Briggs & Stratton Model 80502, rated at  $2\frac{1}{2}$  hp. Engine had aluminum alloy cylinder, judged less desirable than aluminum engine with cast-iron cylinder liner. Mower well guarded except at chute exits. Caution warnings in several places on mower in raised  $\frac{1}{2}$ -in. letters but not painted in contrasting color as they should have been. Changing of cutting-height adjustment was difficult and time-consuming. Recoil starter, with rope extended to mower handle, and engine could be stopped by a control on handle (both desirable features). Handle lacked upper stops to prevent its moving to vertical position and so allowing mower to roll back on operator's foot (a motion which could be very dangerous). *Performance:* Did a good job of cutting grass, and clippings from the two chutes were well distributed on lawn. Easy to push and fairly easy to maneuver. Weight, 61 lb. 1

**Lawn-Boy DeLuxe, Model 7210** (Lawn-Boy Div., Outboard Marine Corp., Lamar, Mo.) \$100. *Engine:* Lawn-Boy Model C-14, 2-cycle, rated at  $2\frac{1}{2}$  hp. Mower well guarded except at exit chute. Caution warning in raised  $\frac{1}{2}$ - and  $\frac{3}{8}$ -in. letters but not painted in contrasting color as it should have been. Change of cutting-height adjustment was difficult and time-consuming. Switch on engine housing marked OFF, ON, Choke. Left front wheel was offset, and mounted on a spring-loaded arm to reduce scalping of turf. The body skirt did not extend low enough at the front, and so exposed the blade (a hazard). *Performance:* Did a good job of mowing, with good distribution of clippings. Very easy to push because of light weight, and to maneuver. Weight, 48 lb. 2

**Toro Whirlwind 21** (Toro Mfg. Corp., Minneapolis 6) \$100. *Engine:* Briggs & Stratton Model 81502, rated at  $2\frac{1}{2}$  hp. Normal chute exit is covered by plastic discharge chute to which a bag is attached for collecting the clippings. Caution warning judged adequate. Quick-change cutting-height adjustment (good). Engine could be stopped by a control on mower handle (a good feature). Lacked engine shaft protection device. The body skirt at the front did not extend low enough, exposing the blade (a hazard). *Performance:*

Did a good job of mowing when grass was dry and not too high. When grass was fairly high, wet, or both, chute had a tendency to clog, and clippings had to be removed from the bag. Instructions call for cutting at the highest setting when grass is above normal in height and then going over the lawn again, at a lower setting of mower height. *Note:* Short grass clippings are good for lawns; they provide nutrient and should not be removed. Anyone using this mower with the bag attachment, which collects the clippings instead of distributing them over the lawn, should be prepared to fertilize the lawn three times each season as recommended in the instructions. This mower can be used if desired without the bagging attachment; however, with the bag and plastic chute removed, the cutting blade is very poorly protected and hence very hazardous. Mower was somewhat hard to push and below average in maneuverability. Weight, 60 lb. 2

**Lawn-Boy Quietflite** (Lawn-Boy Div., Outboard Marine Corp.) \$114.50. *Engine:* Lawn-Boy Model C-60, 2-cycle, rated at  $2\frac{1}{2}$  hp. Similar to *Lawn-Boy DeLuxe* except that engine was mounted on rubber and shrouded with an easily removable plastic cover. The mower had a quick-change cutting-height adjustment. The body skirt did not extend low enough at the front of the mower, and so exposed the blade (a hazard). Unusually quiet in operation. Weight, 57 lb. 3

#### Riding rotary mowers

An article reporting CR's tests of riding-type rotary mowers will appear in the August 1959 issue of CONSUMER BULLETIN. Tests were not completed in time to permit the complete results to be included with this discussion of push-type rotary mowers.

For the convenience of those who wish to buy a riding mower at once and who do not wish to wait for the August issue, we supply abbreviated listings of riding rotary mowers below.

#### B. Intermediate

**Bolens Suburban 7425**, 24 in., \$200; **Moto-Mower Roto-Ride**, 24 in., \$300.

B-

**Lawnmaster LM-111**, 24 in., \$200.

#### C. Not Recommended

**Craftsman 99-8838**, 24 in., \$110; **Gemco Rotarider 27RR**, 27 in., \$160; **Lawn-Boy Loafer 9210** with 21-in. *Lawn-Boy Deluxe*, \$270.

## Reel power mowers

CONSUMERS' RESEARCH strongly urges that everyone should buy the reel-type mower in preference to a rotary because the reel-type mower is much less dangerous. The reel mower does not throw stones or other foreign objects with suffi-

cient force to cause serious injury, and the possibility of a hand or foot being hit by the revolving blade is much less; however, accidents have occurred with reel mowers, chiefly to those who

(Concluded on page 21)

## Cameras, 1959 trends

### Reports on 6 35mm. cameras, a twin-lens reflex, and a slide projector

THE recent photographic shows in Philadelphia and New York indicated that the trend to automation has now reached the still-camera field. Kodak has very recently introduced a line of fully automatic cameras starting at a price as low as \$35. The user merely has to load the camera with film, frame the subject in the view-finder, and press the shutter release to obtain a passable picture every time, if there is a reasonably adequate amount of light. The industry hopes the introduction of such cameras will bring about a greatly increased public interest in photography.

In movie cameras, the new development of automatic lens-aperture controls is a useful one in spite of the fact that, if the camera is "panned" from a dark scene to a brightly lighted one, or vice versa, the resulting motion picture may often show startling momentary changes in brightness of the scene when the film is projected, which may be unrealistic, and disconcerting. Films exposed at a sunny beach may often be greatly overexposed. Even with this disadvantage and although a very large number of the new automatic movie cameras have presented optical and mechanical difficulties that required taking them back to the dealer and the dealer's sending them to the manufacturer, the automatically controlled movie camera may be really useful to the completely inexperienced amateur photographer. This inexpert camera user very often has serious difficulty in getting something close to the correct exposures, especially with the almost universally used color film, which has very limited exposure latitude. Ansco has just released a new 8 mm. color film called *Moviechrome*, which has an exposure index of 20. Many of the electric-eye movie cameras will not be able to use this new and faster film, for their exposures are automatically adjusted on the basis of the exposure index of *Kodachrome* (10 daylight, 16 tungsten).

As to still cameras with automatic lens opening

control, of which a number are now being offered at prices from \$30 to \$140, these will not afford the best pictures possible, but they will produce, without need for any skill on the part of the operator, at least passable pictures of outdoor scenes.

Generally they do not help with the problem of flash pictures (the *Revere EE-127* is an exception) which still require knowledge and judgment on the part of the user, since the correct exposure of the flash pictures is determined by the combination of the kind of flash bulb used, distance of the bulb from the object photographed, and the lens aperture. For such pictures, the automatic aperture control affords no help to the tyro who just wants to take pictures but has no interest in the "how" of getting them.

We believe that, if automation proceeds too far and the need for skill on the part of the user is eliminated, photography is likely to lose its appeal as a satisfying hobby for the person who likes to have a chance to exercise his brains and ingenuity in taking pictures.

Another clearly noticeable trend at the present time is the emphasis on 35 mm. single-lens reflex cameras, a field which has up to now been dominated by the well-known *Exakta* cameras, made in East Germany (Russian Zone). It would seem that the manufacturers have exhausted the possibilities for improvements in the regular 35 mm. range-finder cameras, and are on that account much interested in opening up a new field of camera design to appeal to those who are attracted by new kinds of instruments (and there are a substantial number of millions of such people around, nowadays. They expect thereby to create new business at very substantial prices per unit sold. Several new cameras of the single-lens reflex type have been introduced recently, including *Ashahi Pentax*, *Beseler Topcon*, *Canonflex*, *Nikon Reflex*, *Petri Penta*, *Miranda Automatic*, *Minolta SR2*, and *Retina Reflex 5*. These are priced in the



Samoca LE



Beauty Center 35



Konica IIIA

range of \$100 to \$500; the more expensive models, now growing in popularity, are equipped with prism view-finders (to permit the desirable use of the camera at eye level) and coupled range-finders.

Briefly, the single-lens reflex camera's chief advantages are the simplicity with which the lens can be changed for one of a different focal length. (A few single-lens reflex cameras, such as the *Agfa Colorflex*, do not have interchangeable lenses.) The picture the camera sees is the same size as the negative and is shown on the ground glass right up to the time the exposure is made. Pictures can be taken at short distances (close-ups) to the limit of the forward motion of the lens afforded by the mechanisms of its mounting, without the use of supplementary lenses and without the need to make any correction for parallax error. This feature makes the "S.L.R." type of camera close to ideal for scientific workers, laboratory technicians, naturalists, physicians, dentists, etc.

Disadvantages of the "S.L.R." cameras are that, for the most part, they have focal-plane shutters, which are not as desirable as between-the-lens or behind-the-lens shutters for most work. The cameras are bulkier and heavier than regular 35 mm. cameras, and in most instances the complex shutter release mechanism involving the movement of the focal-plane shutter and the reflecting mirror produces a rather loud and distinctive noise, which for some types of picture taking can be objectionable.

Amateur photographers, unless they have special need for the features offered by a single-lens reflex, should not consider their present equipment outdated and decide they cannot go on working with what advertisers will try to make them think is obsolete equipment. Almost every sort of normal picture taking can be done with the more usual (and less costly) types of 35 mm. cameras; it will be an exceptional photographer who will really *need* to buy one of the newest single-lens reflex cameras, unless he just has to go along with the crowd that yearns to get its hands on "the very latest thing."

In spite of the limitations of "S.L.R." cameras that have been mentioned, if any considerable

number of subscribers indicate their interest in "S.L.R." cameras, Consumers' Research will test and report on some of the most popular of the new ones and discuss at greater length the advantages and disadvantages of particular makes and models of this type.

### Report on tests of 35 mm. cameras

#### A. Recommended

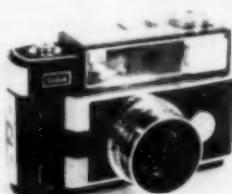
**Samoca LE** (Distributed by Scopus Brockway, 404 Fourth Ave., New York 16) \$49.95; case, \$9.95. Made in Japan. *D. Ezumar f/2.8* coated lens of 50 mm. focal length. *Samoca Synchro* shutter with rated speeds of 1/300 to 1 sec., and bulb. F-X synchronization. A shoe is provided for attachment of a flash gun or other accessory. Built-in photoelectric exposure meter (not coupled to lens—absence of such coupling is considered by CR to be an advantage). Coupled range-finder of superimposed-image type with single window for view-finder and range-finder (desirable). The view-finder had a luminous frame to outline the picture area and had extra frame lines to permit partial correction for parallax. Camera is focused from 3 ft. to infinity by a knob which moves the entire lens (desirable). An indicator shows red when shutter is cocked and film advanced. Two strokes of a lever advance the film. Quality of lens, good; it resolved 56 lines per mm. at center, 40 to 56 lines at edges at full aperture. Shutter speeds were within permitted tolerances. Range-finder image was somewhat small, and not as bright as might be desirable. Maximum shutter speed permissible with Class M bulbs, 1/25 sec. Judged a good camera at a low price for those who want a relatively inexpensive camera with a built-in exposure meter. Weight with case, 1 lb. 13 oz.

#### B. Intermediate

**Beauty Canter 35** (Beauty Camera Co., Inc., 174 Fifth Ave., New York 10) \$69.95; case, \$9.95. (Available at Willoughby's, New York City, and some other stores for \$29.95, plus \$4.95 for the case.) Made in Japan. *Canter f/2.8* coated lens of 45 mm. focal length. *Copal M-X-V* shutter with rated speeds of 1/500 to 1 sec., and bulb. M-X synchronization. Delayed-action release (self-timer). Click stops on shutter speeds. A shoe is provided for attachment of flash gun or other accessory. Coupled range-finder of superimposed-image type with single window for view-finder and range-finder (desirable).



Neoca IVS



Signet 80



Aires 35V

ble). View-finder has luminous frame with extra marks to permit correction of parallax error. Focusing from 2.7 ft. to infinity by a knob which moves entire lens. The camera has an indicator which can be set to show the type of film and whether camera is loaded or empty. Quality of lens, fair; resolved 34 to 40 lines per mm. at center, 28 lines per mm. at edges, at full aperture. Shutter speeds were within permitted tolerances. A well-made camera, and considered an exceptional buy at its \$29.95 price for those who do not require a lens with maximum resolving power. Quality of the lens was good when stopped down to f/5.6, which would be entirely feasible for the great majority of photographers, even with color film. Weight, 1 lb. 14 oz.

**Konica IIIA** (Konica Camera Co., 76 W. Chelten Ave., Philadelphia 44) \$129.95; case, \$12.95. Made in Japan. *Hexanon f/1.8* lens of 50 mm. focal length. *Seikosha MXL* shutter with rated speeds of 1/500 to 1 sec., and bulb (also light-value numbers from 2 to 18). M-F-X synchronization. Delayed shutter action (self-timer). Click stops. Shutter speed and stop openings are so coupled that when a correct combination has been determined, changing to a different shutter speed changes the aperture correspondingly. A shoe was provided for attachment of flash gun or other accessory. Coupled range-finder of superimposed-image type with single window for view-finder and range-finder. Focusing from 3.5 ft. to infinity by rotating a ring of the lens mount which moves entire lens. The view-finder outlines the picture area with a white frame which moves with the focusing mechanism to eliminate parallax error. The exposure counter returns to "start" automatically when the back of the camera is opened. Film is advanced and the shutter cocked by two strokes of a lever. Case has an adjustable dial on the back which is to be set to show the type of film with which camera is loaded. Quality of f/1.8 lens, fairly good; resolved 56 lines per mm. at the center, 20 to 28 lines per mm. at edges, at full aperture. (This lens was not found to be as good as the *Hexanon f/2* lens on the *Konica III*—reported in CONSUMER BULLETIN, June 1957—which gave good performance, resolving 56 lines per mm. at center, 40 lines per mm. at edges.) Shutter speeds were within permitted tolerances. Light-value scale was somewhat difficult to adjust, and a correction was necessary in changing from 1/250 to 1/500 shutter speeds, and vice versa (because of non-linear spacing of marks for 1/250 and 1/500 sec.). The shutter was not well protected against the entrance of dirt at the point where the synchronizing lever enters the casing; there was an opening also at another point near by. Weight with case, 2 lb. 5 oz.

**Neoca IVS** (Distributed by Reliable Photo Products, 103 Fifth Ave., New York 3) \$49.95; case, \$9.95. Made in Japan. *Neokor f/2.8* coated lens of 45 mm. focal length. *Citizen MV* shutter with rated speeds of 1/400 to 1 sec., and bulb. M-X synchronization. Delayed-action release (self-timer). A shoe is provided for attaching a flash gun or other accessory. Coupled range-finder of superimposed-image type with single window for view-finder and range-finder (desirable). The range-finder had a luminous frame with extra marks to permit partial correction of parallax error. Focusing from 1.7

ft. to infinity by rotation of front element of lens (not as desirable as movement of entire lens). Single stroke of a lever advances the film and cocks the shutter. An indicator is available that can be set to show ASA number (but not the type of film) in camera. Quality of lens, fair; it resolved 48 to 56 lines per mm. at center, 28 lines per mm. at edges, at full aperture. Performance of lens when stopped down to f/5.6 was good. Shutter speeds were within permitted tolerances. The range-finder image was small but bright. A well-made camera, but did not appear to be outstanding in any respect; judged not as good value for the money as the *Minolta A* (see Feb. '56 CONSUMER BULLETIN). Weight with case, 1 lb. 10 oz.

**Signet 80** (Eastman Kodak Co., Rochester, N.Y.) \$129.50; case, \$14.50. Has provision for using interchangeable lenses (special mount). A 35 mm. f/3.5 wide-angle lens at \$57.50 and a 90 mm. f/3 telephoto lens at \$69.50 are available. The regular lens is a *Kodak Ektanar f/2.8* lens of 50 mm. focal length. Shutter, behind-the-lens type with rated speeds of 1/250, 1/125, 1/60, 1/30, 1/15, 1/8, 1/4 sec., and bulb. M-X synchronization. Click stops on aperture control and on shutter speeds. Exposure value scale (EVS) coupled to aperture and shutter speed settings. Built-in shoe for attachment of an auxiliary finder. Coupled range-finder of superimposed-image type with single window for view-finder and range-finder (desirable). Illuminated frame view-finder with extra frame lines to permit partial correction of parallax error. An auxiliary view-finder at \$17.50 is necessary when wide-angle and telephoto lenses are used. Built-in exposure meter, not coupled to lens, shows in window EVS number required. A recessed frame on the back of the camera is provided for exposure cards that cover seven different types of *Eastman* films. On one side each card gives the exposure values for various light conditions in daylight and on the other lighting and distance for flash. Focusing from 2.5 ft. to infinity by turning of a knurled ring on the lens mount, which moves entire lens. The film is advanced and shutter cocked by two strokes of a lever. Exposure counter automatically resets to No. 1 when film is loaded. Loading is by a so-called "injection" system in which the film end is merely inserted into a film chamber without having to attach it to the take-up spool. (If durable, such a system could reduce the possibility of the film's not advancing and one's thereby shooting the full 20 or 36 exposures without actually making a single picture because the frame counter continues to advance.) Camera body was mainly of plastic and plastic-coated metal. Quality of 50 mm., f/2.8 lens, good; it resolved 56 lines per mm. at center, 28 to 40 lines per mm. at edges, at full aperture. Shutter speeds were within permitted tolerances. View-finder was such as to require removal of operator's eyeglasses to obtain accurate image of the field of view. While this camera was optically good and had some good features not found in other cameras, it was judged too high in price for a camera using a great deal of plastic in its construction, which is considered much less desirable and durable than the die-cast aluminum bodies common on most 35 mm. cameras. Somewhat larger in bulk than typical 35 mm. cameras. Weight without case, 1 lb. 10 oz.

### C. Not Recommended\*

**Aires 35V** (Distributed by Kalimar, St. Louis 10) \$159.50; case, \$15. Made in Japan. *S. Coral f/1.5 lens of 45 mm. focal length. Provision for using interchangeable lenses (bayonet mount). A 35 mm. wide-angle f/3.2 lens is available at \$59.50 and a 100 mm. f/3.5 telephoto lens at \$89.50. Seikosha shutter with rated speeds of 1/400 to 1 sec., and bulb. M-X synchronization. Click stops on shutter speeds and aperture (diaphragm) control. A shoe is provided for attaching a flash gun or other accessory. Coupled range-finder of superimposed-image type with single window for view-finder and range-finder. View-finder had luminous line frames which outline the picture areas of the several lenses and also includes marks for parallax correction. Focusing from 2½ ft. to infinity by movement of the whole lens in its helical mount, controlled by a lever. Built-in exposure meter not coupled to lens. (Pointers and figures on its dial were small and hard to read because of disturbing reflections from transparent plastic covering over the dial.) The film is advanced and shutter cocked by a single stroke of a lever. (Provision for taking double exposures when desired.) Quality of 45 mm. f/1.5 lens, only fair, though perhaps all that can be expected of an f/1.5 lens. Resolved 56 lines per mm. at center, 20 lines per mm. at edges. When stopped down to f/2.8, resolution was not as good as with the best lens so far tested by CR having a maximum aperture of f/2.8. With the fast films now available, there are very few who have any need for a lens as fast as f/1.5. Shutter speeds were within the permitted tolerances. The coupled range-finder of this camera did not function properly when received, and the dealer failed to correct the difficulty when the camera was returned for repairs. (Range-finder stuck at times, or worked intermittently, and over only part of the range.) With a range-finder operating properly (easily checked by the buyer at time of purchase), this camera would warrant a *B-Intermediate* rating. Weight with case, 2½ lb., almost twice as great as the *Minolta Super A*, a camera of a similar type, but with a slower lens.*

\* \* \*

The following is a list of other 35 mm. cameras that have been rated *A*. *Recommended* by Consumers' Research within about the last three years, and the dates of the BULLETINS in which the cameras were reported.

### Low-priced 35 mm.

**Minolta A.** \$49.95. A very good buy. Feb. '56

### Medium-priced 35 mm.

**Aires 35111L.** \$99.50. Feb. '58

**Ambi Silette.** \$129. Oct. '58

**AnSCO Super Memar.** \$124.50. June '57

**Argus C-44.** \$117 with case and flash unit. Oct. '58

**Contaflex III.** \$176. Feb. '58

**Konica III MXL.** \$124.75. June '57

**Mamiya Magazine.** \$89.95, with case. Oct. '58

**Minolta A2.** \$69.95. Feb. '58

**Minolta Super A.** \$129.50. Oct. '58

### Higher-priced 35 mm.

**Canon L-1.** \$229. Feb. '58

**Canon VT Deluxe.** \$300, \$369.50. Feb. '58

**Contax II A.** \$298. Nov. '57

**Leica 111G.** \$342. Nov. '57

**Leica M-3.** \$444. Nov. '57

**Nikon SP.** \$375. Feb. '58

## Report on a twin-lens reflex camera

### B. Intermediate

**Sawyer's Mark IV** (Sawyer's, Inc., P.O. Box 490, Portland 7, Oreg.) \$79.50; case, \$10. Made in Japan. *Topcor* coated f/2.8 taking lens and *Toko* coated f/2.8 viewing lens of 60 mm. focal length. *Seikosha MXL* shutter with rated speeds of 1/500 to 1 sec., and bulb. Speed and stop number are shown in a small window, on top of the shutter, in a manner similar to *Rolleiflex*. A light-value scale from 3 to 18 is automatically coupled except at 1/500 sec. Built-in M-F-X synchronization. Waist-level focusing on ground-glass screen with built-in magnifier. The viewing screen was not corrected for parallax except for two short lines on focusing screen which indicates the upper limits of the picture at close distances. The camera also had an eye-level view-finder; in using this one does not have access to the focusing screen, but must use the distance scale. In loading film, winding crank is turned until No. 1 appears in red window; thereafter film takes the correct position automatically upon turning the crank. Turning the crank also cocks the shutter, as on *Rolleiflex*. Double-exposure



Sawyer's Mark IV

\* See comment near end of listing.

prevention. Focusing is from 2.2 ft. to infinity by turning knob on left-hand side of camera. This knob also contains an indicator to show the ASA number and type of film with which the camera is loaded. The twin-lens cap has a projection built on which covers the shutter release, to prevent accidental pressing of the release button. Quality of lens, only fair; it resolved 48 to 56 lines per mm. at center, 14 to 20 at edges, at full aperture. (To be satisfactory, a lens of this focal length should

resolve 43 lines per mm. at all parts of the field.) Shutter speeds were within permitted tolerances. The shutter was not well protected against entrance of dust at points where levers for setting synchronization, speed, and aperture enter shutter casing. Two cameras of this model are reported to have had difficulties with the film transport in that it failed to stop at the proper spacings. Weight with case, 1 lb. 15 oz. Takes 12 pictures  $1\frac{1}{2}$  x  $1\frac{1}{2}$  in. on No. 127 film. (Same as *Rolleiflex 4x4 cm.*)

## Slide projector

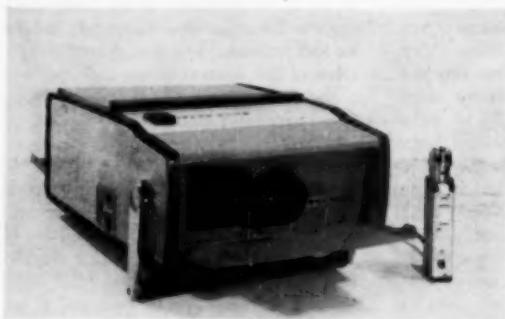
### Semiautomatic

#### A. Recommended (see note at end of listing)

**Explorer, Model 744** (Bell & Howell, 7100 McCormick Blvd., Chicago 45) \$99.95, with one slide tray and *Point-A-Ray* illuminated pointer device incorporated in the remote control unit. Additional slide trays with *Micro-mounts* for 40 slides, \$2.35 each or 6c per slide. Lens, f/3.5 *Trionar* coated anastigmat of 4-in. focal length, focused by turning a knob on rear control panel. Double condenser, one unit of which is tinted to serve as a heat filter. 300-watt lamp. A shutter closes automatically while slides are being changed. A switch on rear control panel turns lamp and fan on simultaneously.

Slides are changed by pressing a button on top of projector or a button on the remote control. Lever at the side of the projector can be set for forward, reverse, or manual operation, and a switch on remote control can be set for forward or reverse operation. (The lever on the projector must always be in the forward position to change slides by remote control, and the switch on the remote control must always be in the forward position when the projector is operated with the controls on the body of the projector.) The *Explorer* will handle only slides in cardboard mounts. Each slide is inserted in a special individual clear plastic *Micro-mount*. A raised portion about as large as a dime in the center of the mount presses against the transparency and prevents it from "popping" out of focus. While this spot is visible on the screen if the holder alone is projected, it is not noticeable at all when a transparency is being shown.

A pointer light is built into the remote control, which can be switched on and focused to a small bright line to point out details on the screen. The projector is self-contained, requiring no case. The lens and control panel have hinged covers; covers on the top provide access to the interior of the projector, and the large carrying handle serves as a front support for the projector when slides are being shown. The control panel is illuminated. Single slides can be shown by placing them in *Micro-mounts* and inserting and removing them one at a time through the top of the projector. The *Explorer* is equipped with an elevating device, but there was no provision for leveling in a sidewise direction (which may often be important). Light output, about average for a 300-watt projector. Evenness of illumination, good (there was a very slight decrease in illumination at the corners with the large "Super Slides"). Resolution of the lens was good. As the *Micro-mounts* would not



accept the standard resolution test plate, lens was not judged on quite the same basis as other projector lenses, but the *Trionar* f/3.5 4-in. lens appeared to be about equivalent to a lens of same name used on the *Headliner 706* which resolved 56 lines per millimeter at the center, 40 lines per millimeter at all corners except one at which the resolution was about 28 lines per millimeter. Temperature of slide, about 160°, satisfactory.

The slide changer operated satisfactorily, and there was no "popping" of slides. The plastic *Micro-mounts* have the disadvantage that they can be scratched and will show finger marks and may collect dust; all of these are very noticeable in the projected image. The projector was very well baffled against light leaks. Weight, 18 lb. 9 oz. Model 742 at \$79.95 is similar but has no remote control. Model 754 at \$149.95 is also similar except that it has a 500-watt lamp and a built-in timer for fully automatic projection. Model 754Y is the same as Model 754 except that it has a *Filmovara* "zoom" lens, at \$30 extra (not tested by CR), whose focal length can be adjusted to any value between  $3\frac{1}{2}$  and  $4\frac{1}{2}$  in. as desired.

*Note:* Important—This projector would not be an economical purchase for anyone who has a large number of slides already mounted in other than standard cardboard mounts, for such slides would have to be remounted in *Micro-mounts* before they could be shown. Few would want to remove a large number of existing slides from their mounts in order to be able to use them in the *Explorer*. As slide trays with 40 *Micro-mounts* list at \$2.35, the cost, not including time and labor, would amount to \$5.88 per 100 slides. Slide trays for other Bell & Howell projectors can be purchased for as low as 40c each or \$1.30 per 100 slides.

For listings of six other slide projectors tested recently, see the February, July, and October 1958 BULLETINS (available at 40 cents each).

Photograph of the inside of the top of a discarded range boiler tank. The severe pitting caused by corrosion can be seen in several areas. In service, a tank in this condition may be discarded because of the appearance of rust in the hot water or upon clothes that are being washed or because the pitting extends through the steel plate of the tank and a leak results.



## Selecting a hot-water tank for the home

### Protection through water hardness

One of the best defenses against corrosion is provided by the inherent ability of most water to form a protective coating on the inside of the tank. Often, too, a film of scale of calcium sulfate or calcium carbonate is precipitated upon the metal from the water in the tank and this assists in arresting corrosion. Unfortunately, in hard-water areas, the amount of precipitate formed is often excessive and it will extend into the piping system to clog pipes and slow the flow of water. The alkalinity of the water, or its "temporary hardness," is the measure by which the ability of the water to form or deposit such a protective coating can be determined. In the absence of the coating, tank failure will usually occur in a much shorter length of time. With a good interior coating of scale, a tank may last 20 years or so. Red rust does not form a tight coating, and therefore does not bar continued corrosion.

Dissolved oxygen in the water, particularly at high temperatures, tends to remove the protective film or scale and thus to pave the way for rapid corrosion. Further, direct-gas-fired water heaters are more susceptible to corrosion than indirect gas-fired or most electric-resistance heaters, because their heating surfaces, which are necessarily very hot, have areas from which the protective coating of scale inside may be driven off.

The usefulness of a water analysis is open to question, principally because of the lack of consistency in the chemical behavior of water. Even in those areas where tank failures are frequent, it has been noted that in many houses, under conditions of use that are apparently the same as elsewhere, the life of tanks is comparatively long.

*Failures of water tanks used for heating and storage of water are almost invariably the result of corrosion of one sort or another. The character of the water and types of tank construction that offer the greatest resistance to destructive corrosion are, therefore, important considerations in every homeowner's selection of a tank for hot water in the home. There is no simple or universally valid solution to the problem, for corrosion is largely an unexplored field; there is still much work to be done, and much of the work already done needs to be clarified and systematized.*

Thus there is great risk of inaccuracy in attempting to determine the aggressiveness (corrosion-causing tendency) of a water sample solely from its analysis. Certainly, no single factor by itself is apt to be conclusive, although, as most experts, but few laymen, know, it is the naturally softer waters, and waters that have been softened by chemical means, that are generally the more corrosive, while the really hard waters tend to be only moderately corrosive.

### Water treatments

The corrosive action of very soft, acid waters found in some parts of the country can be reduced by passing them through crushed limestone or marble (calcium carbonate) "beds," which tends to make them less acidic. This treatment increases the hardness of the water, but does not harden the water sufficiently to cause the diffi-



The metal casing of an immersed electric heating element is often subject to severe corrosion. This photograph illustrates an example of such deterioration. When the casing becomes porous, water from the tank reaches the live electrical element inside and usually causes it to burn out. Even then, however, a dangerous condition of shock hazard can exist; the defective element should, of course, be replaced as soon as possible.

culties in washing that are commonly associated with naturally hard water.

For those interested in reducing the corrosiveness of a soft, acidic water, such as is often supplied by a private spring or well, the Copper and Brass Research Association, 420 Lexington Ave., N.Y.C., has an excellent free folder, Treatment of Private Water Supplies to Control Corrosion.

#### **Galvanized steel water tanks**

Galvanized steel was originally widely used for domestic service-water tanks (known more familiarly to the plumbing trade as range boiler tanks). While millions of these tanks gave satisfactory service and became a standard fixture in many kitchens, with so many others excessive rust and other discolorations appeared in the water, coupled with short tank life, that manufacturers were forced to seek better materials for many areas.

These troubles were greatly aggravated with the advent of copper water-service piping connecting to the street mains and copper piping in the house. Copper dissolved from the house mains or from service piping outside of the house found its way into the tank where galvanic action ate away the galvanized (zinc) tank lining and thus hastened tank failure. In addition, the copper salts formed objectionable green deposits on any surfaces upon which the water dripped. Then, as the deterioration of the zinc galvanizing progressed, accretions of rust on the underlying steel added to the difficulties.

#### **Magnesium anodes**

In an attempt to correct these difficulties, magnesium rods, called anodes, were placed inside of the galvanized tanks. With these rods, a galvanic action occurs which serves in part to protect the zinc lining of the tank as the rods are eaten slowly away. The rods are thus "sacrificed" to favor the galvanized inner coating of the tank. While magnesium anodes have proven helpful in many localities, particularly when used in so-called glass-lined or porcelain-lined tanks and in waters within a well defined range of dissolved material, they have actually proven very objectionable with some waters. They have given an odor to the water, caused discoloration and cloudiness in the water, caused formation of free hydrogen (in very hard water) with resultant sputtering at the faucet, even explosions occasionally, and they have caused sludge formation with system noises and stoppages of flow.

Properly utilized, magnesium anodes can be effective in preventing tank corrosion if the water supply lies in the range of 120 to 250 parts per million of dissolved solids (usually hardness-forming materials). When the hardness exceeds about 250 parts per million (15 grains per gallon), the electrolytic action can be expected to become so severe that the life of magnesium anodes will be short and considerable replacement expense occasioned thereby; of course, as the water becomes harder, the need for the anodic protection decreases in proportion. Information on the hardness of your water supply should be available from the local water company, or from the state health department of your state.

It should also be pointed out that, with the anode, there is some need for concern where an urban water supply is fluoridated. There is reason to believe that, with magnesium present in the water, fluorine may cause a retardation of development of bones and teeth.

#### **Dielectric effect**

The life of many galvanized tanks is shortened by galvanic action at the immediate points of contact between the steel tank and any copper or other non-ferrous system piping connected to it. In order to minimize this effect, some manufacturers recommend the installation of dielectric unions (designed to be insulators, rather than conductors of electricity) between the tank and the piping. Those serve to insulate electrically the tank from its piped connections, and have proven so effective in eliminating a blocking type of corrosion at the couplings that several manufacturers of hot-water tanks void their warranties if the dielectric unions are not used.

A difference of potential due to a lightning

stroke may cause insulation failure in an appliance that depends upon the cold- or hot-water piping for its "ground." If this ground lead does not carry through to a true ground because of the presence of one or more of the dielectric unions in the line, a dangerous shock hazard situation can exist. On this account, in a region where severe lightning storms are a possibility, it is best *not* to use the dielectric unions.

#### Copper tanks

As a further attempt at a solution to corrosion problems, plumbers are now often recommending copper storage tanks, and a good many of them are in use. While much more satisfactory and longer lived than galvanized tanks in many areas, they do present problems in some other places. Copper in water has a characteristic unpleasant astringent taste. Water containing noticeable traces of copper should not be used for drinking or cooking and copper tanks are best used therefore for heating or storage of water for washing of clothes and dishes and similar uses in the home. With copper piping, it is desirable to run off enough water that the taste is not in evidence, before drinking the water or using it in cooking.

#### Vitreous-enamelled tanks

An increasing number of manufacturers are now offering vitreous-enamel-lined tanks, popularly, although somewhat erroneously, called "glass-lined" tanks. This construction has provided a noticeable improvement in tank life in localities where galvanized tanks have given a history of rapid corrosion. There are, however, certain conditions where even these tanks do not answer the requirements. When the water temperature exceeds about 160°F, for example, the vitreous-enamel lining tends to become porous and to disintegrate gradually. Thus in restaurants and other such commercial installations, where water temperatures of 180°F or higher are standard for reasons of proper sterilization of utensils, the vitreous-enamel-lined tanks cannot be recommended.

Vitreous tank linings, although often advertised as "flexible," are known to be susceptible to chipping and cracking; when this happens, the effect is to expose the metal of the tank to corrosive action. Besides, as much as 5 to 8 percent of the inside surface of a tank that is presumably lined may actually not be protected by a continuous enamel coating. It is characteristic that corrosion at one small bare spot in a vitreous-enamel-lined tank can be as fatal to tank life as widespread corrosion in an unprotected tank because electrolytic and galvanic actions, and even rusting tend to concentrate on the unprotected area. Thus virtually all manufacturers now recommend

the use of magnesium anodes in vitreous-lined tanks, despite their allegedly corrosion-proof linings.

#### "Stone-lined" tanks

So-called stone-lined tanks have been introduced to overcome the objections to both galvanized and vitreous-enamelled models. In these, a thick ( $\frac{1}{2}$  inch or more) coating of water-impervious Portland cement is applied to the inside of the tank. While solving virtually all problems of corrosion and galvanic action, this type of tank construction has the serious disadvantage of being so heavy that freight and handling charges become a problem. Further, the linings are so easily cracked and broken, particularly with the rougher handling the tanks receive because of their greater weight, that the tanks may or may not be effectively protected after installation, and there is no way to tell whether the linings are intact and effective until the tanks have been in use a long time, or fail prematurely.

#### Monel metal

Monel metal, consisting of about two thirds nickel and one third copper, with small amounts of other metals, was believed to be the answer to all tank problems, and is still considered so from all angles except first cost and supply. Nickel has become so scarce in this country that its use in water tanks of monel metal is almost out of the question because of the high cost.

#### Copper-nickel tanks

Tanks made of another copper-nickel alloy (90 percent copper, 10 percent nickel) have been developed and have proven entirely satisfactory. Their cost is about 50 percent above that of galvanized or vitreous-enamel-lined tanks, but is markedly less than the now seldom-seen monel metal tanks.

#### Aluminum alloy

Tanks made of an aluminum alloy are also in limited use. While still to be used only in carefully selected applications, the aluminum alloy is believed to have considerable promise. As made at present, it is a homogeneously rolled material containing approximately 85 percent aluminum and 15 percent of other metals. The 15 percent non-aluminum component is considered "sacrificial," to prolong materially the general life of the tank by saving the aluminum at the expense of other ingredients of the alloy. However, as Consumers' Research has previously pointed out, even slight traces of iron or copper in the water entering an aluminum tank will promote rapid corrosion. Thus, in areas where the iron content of the water is high or where the water has been

found to corrode copper piping even slightly, the aluminum tank may prove to be impractical. (True also in some cities, where the public water supply may have traces [fractions of a part per million] of certain contaminating metals.) Thus this type should be installed only on the specific recommendation of the manufacturer applying to the town or city in question.

### **Lead**

While lead is completely unsuitable for use as a metal for tanks, a number of American cities do report that it is still accepted for use in water supply piping. In a lesser but still considerable number of cities it is also still used as a material for service connections to water mains (and in at least one case we know of, its use is *required* by city regulations for connection from the street mains to house piping). In view of the now well-recognized toxic hazard of lead, which is dangerous at a level of 1 part in 10 million in water for drinking and cooking, every possible influence should be brought to bear to have this metal completely removed from all parts of any water system that supplies potable water.

### **Relative tank costs**

Until very recently, vitreous-enamelled (glass-lined) tanks have been 10 to 15 percent or more higher in cost than the galvanized tanks of the same size. Today, increased production volume and improved techniques have brought the two prices closer together. Aluminum alloy tanks are about 40 percent higher in price than galvanized tanks.

In considering any type of tank, be sure to investigate the extra charge that is made for metal that is thicker and heavier than "standard." This field is now so highly competitive that many manufacturers offer lightweight tanks, designed solely to meet price competition, at slight savings over tanks made of thicker metal that will be much more durable. The consumer is well advised to ignore the thin-gauge type, and to purchase, instead, the heavier model, so as to obtain much longer life. In view of the high cost of plumbers' time in connecting such equipment, the higher priced tank will soon prove to have been the cheaper to buy and use.

### **Water temperature important**

The most important factor influencing tank life has been left until last. With the exception of monel, and now the new aluminum alloy, available to a limited degree, the life of a tank is directly influenced by the temperature of the water in it. If 160°F water temperatures are maintained, tank life will usually be materially shorter than if 150°F temperatures are used, with

still more rapid decreases in life as the temperature increases still farther. (While a 140°F temperature is to be preferred, CR feels that 150°F is a good compromise figure, that best serves all purposes, while ensuring good tank life.) Close control of the temperatures of the hot water will also prolong tank life by preventing temperature overshoot. Because of temperature fluctuations, "summer-winter" hookups with both gas and oil boilers have, particularly with horizontal storage tanks, caused more trouble than separate automatic hot-water heaters. As was indicated previously, electrically-heated tanks usually outlast gas-fired ones, because of the absence of high-temperature areas in the walls of electrically-heated tanks.

Water containing oxygen will corrode steel three to four times as fast when hot as when cold; but, for all practical purposes, water below 150°F can be considered as non-corrosive. Oxygen is mentioned because neutral and slightly alkaline waters saturated with air will corrode steel or iron about three times as fast as the same water free from air.

### **Tank must suit local conditions**

It is apparent from the foregoing discussion that no one tank material is a panacea for all water and water usage problems. No one can make a reliable recommendation without specific data on the particular installation intended. Even in a single city, water characteristics differ in different areas, often changing with the time of the year, besides. For instance, Philadelphia is supplied from two rivers. East of Broad Street, soft water is drawn from the Delaware; west of Broad Street, the mains carry harder water from the Schuylkill. New York, too, has several sources of supply.

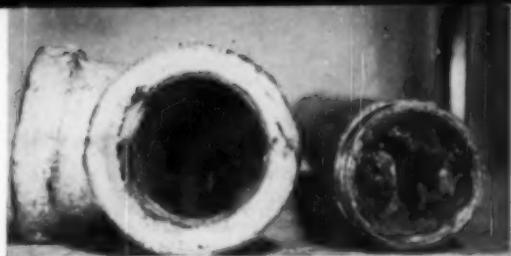
Water analyses are complex and offer help but are not a sure-fire solution to the problem. Questions of acidity or alkalinity, hardness or softness, amount of free oxygen and carbon dioxide present, all make it about impossible to formulate a short or simple rule or way of dealing with the problem. There is, in a word, no way to get around the need to rely on practical experiences in the town and even in the neighborhood, in the selection of a water storage tank. Soft water usually has a greater corrosive action on tanks than hard water, but the presence of even minute traces of certain common metallic ions and of entrained free oxygen also tends to accelerate corrosion. Thus, ordinary chemical analysis by a water chemist gives no certain answer to what your water supply will do to your tanks and piping.

The best method to use in selecting a type of water storage tank would appear to be that of following the general trend of experience in your

particular locality, and to confine your selection to the type or types which have provided satisfactory service in actual use. Obviously, there is nothing to be gained by selecting an expensive kind of tank if a cheaper one has given satisfactory service to consumers locally.

Plumbers, who should know about local conditions, are often tempted to suggest the purchase of a more expensive kind of water tank than is actually called for. Water companies can supply analyses, but are often constrained to carry water on both shoulders as far as their recommendations are concerned, for fear of offending a group of manufacturers. It is therefore suggested that, if you are unable to make a survey among neighbors regarding their experience, you obtain a chemist's analysis of your water and submit it to those manufacturers whose equipment is under consideration, preferably manufacturers of two or more classes of tanks. The easiest and best way, as mentioned previously, however, is to check carefully with old-time residents in your immediate vicinity. Your experiences are likely to be similar to theirs, particularly if enough are asked to obtain a reasonable consensus.

Consumers' Research wrote to the water companies in several large cities in the United States requesting information on their respective water supplies and recommendations, if available, for the type of hot-water tank found best suited for use in each city. Part of the information in the more than 40 answers received has been divided



Corrosion and deposits of salts which collect in the water supply piping can cut down flow noticeably, indeed, in many instances, can almost completely stop the water flow. The two pipe fittings in the illustration were removed from the water line connected to a hot-water heater.

into two basic groups in the following lists of cities with the thought that the information may be of at least some help to residents having need for a new tank for heating or storing hot water.

#### **Cities in which a galvanized tank will likely serve**

Chicago, Ill.; Cleveland, Ohio; Columbus, Ohio; Dallas, Tex.; Detroit, Mich.; Ft. Worth, Tex.; Lynchburg, Va.; Memphis, Tenn.; Milwaukee, Wis.; Minneapolis, Minn.; Nashville, Tenn.; San Francisco, Calif.; St. Louis, Mo.; Syracuse, N.Y.; Tulsa, Okla.

#### **Cities in which a stone- or glass-lined tank or non-ferrous tank is likely to be preferable**

Atlanta, Ga.; Charleston, S.C.; Denver, Colo.; Durham, N.C.; Harrisburg, Pa.; Hartford, Conn.; Indianapolis, Ind.; Jacksonville, Fla.; Los Angeles, Calif.; Louisville, Ky.; Miami, Fla.; Newark, N.J.; New Haven, Conn.; New Orleans, La.; New York, N.Y.; Philadelphia, Pa.; Pittsburgh, Pa.; Portland, Maine; Providence, R.I.; Richmond, Va.; Seattle, Wash.; Springfield, Mass.; Toledo, Ohio; Wilmington, Del.; Worcester, Mass.

## **Reel power mowers**

(The beginning of this article is on page 11)

have attempted to free a jammed reel without shutting off the engine.

Reel-type mowers can be purchased for about the same prices as the higher-priced rotaries, and they do an excellent mowing job on lawns that are in good condition and relatively free from weeds; they are much less likely to "scalp" high spots in the lawn than rotary or hammer-knife mowers. (Two hammer-knife mowers are discussed on page 27 of the August 1957 BULLETIN.)

### **A. Recommended**

**Cooper Klipper** (Cooper Mfg. Co., Marshalltown, Iowa) \$130. Width of cut, 18 in.; height of cut adjustable from  $\frac{1}{2}$  to  $2\frac{3}{4}$  in. Weight, 101 lb. Also available in 20-in. size.

**Engine:** Briggs & Stratton, 4-cycle, rated 1.6 hp. Clutch, slipping-belt type. Recoil starter.

**Performance in test**, very good. A well-built well-finished mower. 3

**Eclipse Rocket** (The Eclipse Lawn Mower Co., Prophetstown, Ill.) \$146.50, f.o.b. factory. Width of cut, 20 in.; height of cut adjustable from  $\frac{3}{4}$  to  $1\frac{1}{2}$  in. Weight, 120 lb.

**Engine:** Briggs & Stratton, 4-cycle, rated 1.75 hp. Recoil starter.

**Performance in test**, very good. A sturdy, well-made mower, of known good durability. 3

**Jacobsen Manor** (Jacobsen Mfg. Co., Racine, Wis.) \$229.50. Width of cut, 21 in.; height of cut adjustable from  $5\frac{1}{16}$  to  $2\frac{3}{4}$  in. Weight, 130 lb.

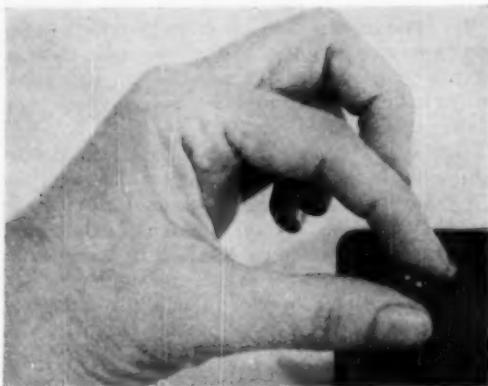
**Engine:** Jacobsen, 2-cycle, rated 2.0 hp. Recoil starter. Disk-type clutch.

**Performance in test**, very good. A very well-built mower with a good, quiet engine. This mower had the advantage of being able to cut close to trees, edges of lawn, etc. The Jacobsen mower would be *B. Intermediate* for those who object to a 2-cycle engine. 3

# Contact lenses

BY PURMAN DORMAN, M.D.

*Some people just want to see what everyone else sees—but they want to hide the fact they do not see well without glasses. Eureka, contact lenses! The mechanical placing of a lens directly over the front of the eyeball introduces a new concept for some, the millions who are visually handicapped. Tests of contact lenses would have to be done over a long period of time, and such tests are somewhat outside the usual scope of the work of Consumers' Research. An authority has been chosen by our staff to present a rounded view of this important topic. The author is Purman Dorman, M.D., an ophthalmologist of Seattle, Washington, who has had long experience with contact lenses. He is a member of the National Society for the Prevention of Blindness. He has been a member of the Society's advisory board for over 20 years and is often consulted on problems of eye health and particularly on questions related to contact lenses.*



rested on the white part of the eye, deliberately and carefully avoiding contact with the cornea. About June 1950, a lens was developed smaller than the size of the cornea but lying directly against it! The little one of today, the corneal type, is about the size of the end of a cigarette. From 9.0 to 9.4 millimeters, average 9.2, accurately measures today's diameter. The thickness is about  $2/10$  of a millimeter or less than  $1/100$  inch (a millimeter is  $1/25$  of an inch), slightly thicker or thinner depending upon the correction needed in the regular glasses. Contact lenses have been made thinner, but they warp and their edge is like that of a knife.

The slightly curved surface does not fit tightly but is slightly flatter than the underlying rounded cornea. It is held in place by capillary attraction and moves freely over the surface upon a thin layer of tears. Constant movement and interchange of tears over the eyeball are sufficient to supply oxygen to the corneal surface and to remove its waste products. Before plastics were developed, a contact lens was made of glass. Now a lens is of plastic, made by one of three methods: the plastic may be extruded or squirted into a mold, pressed between dies to the correct form, or a block of plastic may be ground to the correct curvatures.

Why do four out of five who buy contact lenses choose them? Solely for appearance. When wearing these lenses there is a freedom from rain spots, snowflakes, fog, and mist, and with certain modified types, a greater ability to participate in athletics. But—improved appearance comes first, by far.

## Desirability and wearing time

How important are contact lenses to a wearer? "Importance" has been defined by ophthalmologists and others as "motivation." An owner must

LOOK Mom! No glasses! And that's the situation today, for many persons now use contact lenses. The tiny, practically invisible disks on the front surface of the eyeball are, for many, pushing aside the well-known forward or conventional type of glasses consisting of a frame and a pair of lenses. Gone are the days of "men seldom make passes at girls who wear glasses."

Much advertising money has been spent to advance the use of contact lenses. Most everyone who has to wear regular glasses would like to discard them for one reason or another. Because so much of the promotion of contact lenses has been flavored with commercialism, it is well to ask certain questions. Although these lenses have been highly lauded, how important are they, really, to the user? How many hours will an owner wear them and what difficulties is he likely to encounter in their use?

Contact lenses are not new. While not so old as the hills, certainly they were made and worn for many years before 1900. The earlier types

be willing to accept some continued difficulty when wearing his contact lenses. The sex of the wearer comes into the picture. More than five times as many contact lenses are fitted for girls as for boys. Age enters, too. Perhaps five times as many persons under 35 get them as those who are older. Motivation determines at least 80 percent or 90 percent of the final success in wearing them.

Naturally, a potential purchaser questions: "Can I wear these lenses all day and throw away my regular glasses?" The ability to accept pressure on the cornea by the contact lens under the lid, which is influenced by tight or loose lid pressure, and acceptance of the irritability of the upper lid as it winks downward over this strange object, determines the tolerance of the wearer. How long a person can tolerate the contact lens is known as "wearing time." Prolonged wearing time is frequently exaggerated by certain heavily advertised groups. Their advertising touches lightly upon the truth. Many instances are known of persons who wear their "contacts" around the clock, wear them day after day, wear them at night in their sleep or push them under their upper lids at nighttime. But unusual examples are not the common experiences. It is possible that some persons needing glasses only to a moderate extent and willing to accept a blurred distance vision without them may have "completely discarded their regular glasses," in favor of contact lenses. But usually they haven't really discarded them. What is more probable is that they have put these regular glasses in a drawer, ready to be used quickly. If a person has poor or markedly diminished vision without any glasses, then his regular glasses are as essential as his contact lenses, or more so.

Contact lenses, however, can be considered an excellent accessory, even if worn only for certain limited times, though it be 6 or 16 hours. Sometimes a contact lens wearer will be forced to resume his forward glasses for daily use, for no accountable reason except that his cornea becomes tired.

What happens to the working ability of a contact-lens wearer if he loses his contacts or breaks one? And is one lens easily lost! Although advertising may say the opposite and although many persons purchase contact lenses just to engage in athletic activities, it is not advisable to wear the usual small corneal lenses whenever there is bodily contact in sports, as in boxing, wrestling, basketball, or football, nor is it practical to wear them in swimming, if the wearer goes under water, because of the ease with which they may be lost. For such activities, a tighter fitting lens or a larger size lens may be desirable.

### **Difficulties encountered**

What are some of the difficulties described to the eye physicians who may fit contact lenses? The lens is something that does not belong upon the eye. The eye resents it by forming excess tears or water. Although the profusion of tears soon diminishes, there always remains a slight irritability due to "something there." At first wearing, the excess tears form a thick layer between the contact lens and cornea, vision is markedly blurred, and the wearer finds it difficult to open his lids. An owner may persist in believing the carefully polished edge of the contact lens is like a sharp knife, as his upper lid closes. One difficulty in wearing contacts is the change in vision when regular glasses are resumed, commonly referred to as "spectacle blur." After a period of wearing contact lenses, the corneal dome may flatten, and sharpest visual acuity may not be regained for 15 minutes, possibly an hour, if necessary to switch to regular glasses.

How long does it take to become accustomed to contacts? An extremely variable time, but for four-hour daily use, possibly a week of adjustment. A person sometimes may wear a lens six hours at a time within a few days, but if an individual's livelihood depends upon close accuracy of vision, he will need a longer time. Within 4 to 12 weeks, the new owner of contacts may wear his lenses most of the day.

How many people can wear contact lenses? How many owners find them unsatisfactory, either at the time of purchase or at a later date? The first part is easy. Almost everyone CAN wear contact lenses. "Can" refers back to an earlier word, "motivation." Motivation must be vigorous, and barring the child of a few years of age for whom contact lenses have occasionally been fitted, almost any person under 40 who NEEDS regular glasses can wear contact lenses.

However, "can" does not mean "will" wear contacts. Many persons will not wear them in spite of certain advantages. This type of lens may cause so much irritation to the upper lid, a sense of an unwanted object on the eye plus an excess of watery tears while it is being worn, that many persons say "Why bother with them? I am accustomed to my regular glasses. I can wear them from the time I get up to bedtime, no fuss, no bother, and besides, my vision without glasses is almost as good as with my best glasses." And those few words outline one or more of the reasons why purchasers may become dissatisfied at an early stage.

But after buying a pair of contacts, does an owner always wear them? A person may wear contact lenses but he does not ignore them. It is

easy to see that some owners find them too much to bother with or the feeling of irritation is too great, and the eyes may water too much. Yes, occasionally a few are discarded after a few months' trial, as too much of a nuisance.

#### Kinds of contact lenses

Two entirely different kinds of contact lenses are available, single-vision and bifocal. The one that is worn almost exclusively is the single-vision design, intended for distance vision which is most desired by the myopic or nearsighted.

Statements are sometimes made that a contact lens will retard or even stop the progress of myopia in a growing child. This is a false hope. Wearing a contact lens does not permanently affect the changing shape of a growing myopic eyeball, for the growth is in that part BEHIND the cornea. A myopic person will remain myopic and become a little more myopic regardless of any contact lens, just as is true with the usual form of glasses with the frame. However, a high percentage of persons obtaining contacts today are in the age group when growth is about stopped, not only for the body but for the eyes as well.

Many of those wearing bifocal glasses now would also like to try contact lenses. At present, only one kind is readily available on the market, with the reading portion ground either on the inside surface or the outside surface of the usual single-vision type; the final product faintly resembles a doughnut. Another experimental type has a lip projecting at the bottom with the lip incorporating a bifocal arrangement; the entire affair rests on the margin of the lower lid. Another type has the wearer peering through a tiny pinhole area at the center, thereby obtaining a slightly better ability to read.

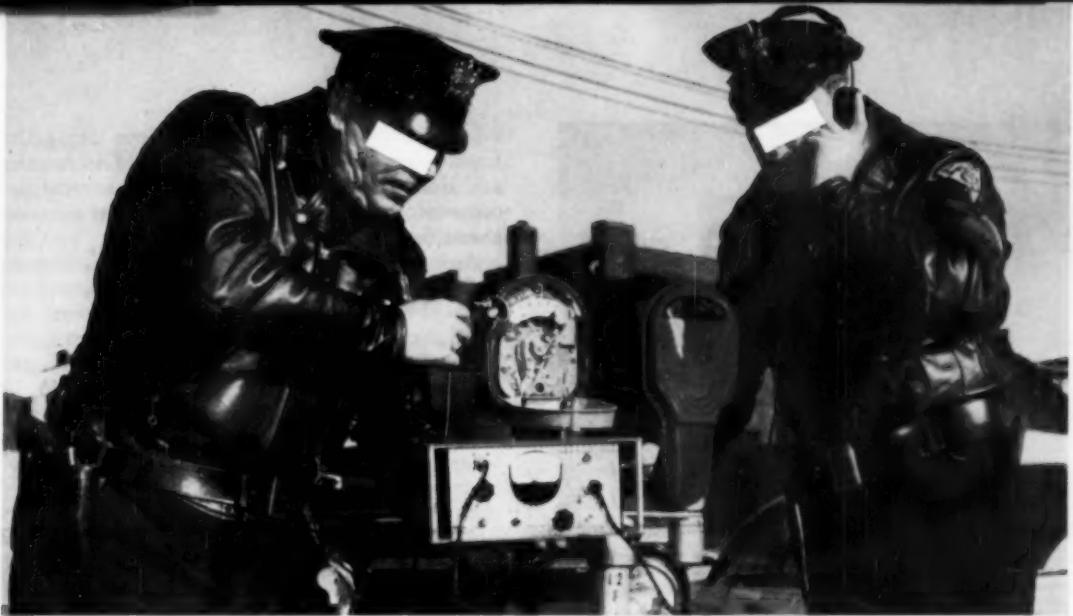
Of all the bifocal types prescribed in 1958, about 50 percent have not satisfied the would-be users and were returned. Their use at first is far more confusing than use of the regular bifocal glasses. It is tremendously difficult for a person first to start wearing bifocal contact lenses, unless he has had training and previous experience with the single-vision contact lenses.

But have contact lenses advantages over "forward" glasses? What do those persons, of the right age group, with the stronger need for glasses, and with sufficient motivation say about their contact lenses? The mechanics of a contact lens is far different from that of the conventional lens. A contact lens is separated from the clear part of the eye and the remainder of the refractive system of the eye only by a layer of tears, about  $1/14$  of a millimeter thick. As a result of this proximity, the size of the image for an eye using contacts is larger than before and the image is greatly improved, especially for those who are nearsighted. When one is wearing contact lenses, all objects seem brighter than before, and the owner discovers an outstanding "wideness" of view as he abandons his frames. Psychologically, this may play a tremendous factor in the development of a growing young person. A contact lens often creates a marked change in personality because it is not solely "something for the vision." Social pressure or conforming to the thoughts and ideas of those around us is one basis for the rapid expansion in the use of contact lenses.

The present types of contact lenses and the present concept of wearing them represent a great advance in the practice of refraction. The new lenses offer something unusual and different, something better.



Consumers' Research is pleased to announce that it is a recipient of the National Safety Council's Public Interest Award for 1958. The Award is made each year to a number of newspapers, magazines, radio and television stations, and other media of public information, for exceptional service to safety. The judges were specialists in the field of public information or of safety. The plaque signifying the Award is shown at the left.



Police officers cooperate with engineers and open a parking meter so the public can get a good look at its "insides." One officer holds electronic stethoscope near parking meter while other listens to see if timer beat is a normal two per second or 120 per minute. Engineer can replace earphones with a tape recorder to get permanent record of the beat and later analyze it with data processing equipment to "pinpoint" reason for defective timing.

## The parking meter problem

PARKING METERS came into vogue a number of years ago when it became necessary to regulate the flow of traffic in busy metropolitan areas and to prevent inconsiderate use of parking spaces needed by shoppers and by persons calling on professional men and artisans at their offices and places of business. Initially, it was the custom to install a relatively small number of meters on busy center-city streets, with the hope that the installation would bring about some relief in the congested conditions.

Even though this approach did not solve the traffic problem, as the number of automobiles increased by many millions, towns and cities purchased more and more parking meters and installed them in an ever-widening area in streets and lots around the business districts. Gradually large municipally-owned free-parking lots were established; these were soon converted to meter parking in many instances. Literally, forests of parking meters appeared everywhere, demanding tribute from motorists who already were paying high gasoline and local taxes allegedly to take care of the building, improvement, and maintenance of roads and parking areas. Thus, a new big taxpayer-squeezing enterprise or municipal monopoly was born. And it is big—so big indeed, that in the city of Miami, Florida, \$186,377 were collected *in fines* on 60,732 parking tickets in the last two years.

Tests in the laboratory and at the curb indicate that most types of parking meters now in use are very unreliable devices. Apparently, the degree of unreliability is relatively unimportant in many areas so long as the meters serve to collect money from the taxpayer in exchange for the privilege of parking his automobile for a specified time on municipally controlled property. Consumers' Research is of the opinion that if the time indicated by a parking meter is to be accepted as a basis for charges of illegal overtime parking, then meter design should be greatly improved. Better still, it would be more equitable for state governments to declare use of meters to be illegal and seek a new solution to the problem of limiting parking time. Electronic parking, for example, appears advantageous from the long-range viewpoint and this system is being used in some areas at the present time.

In most cases, there has been no legislation to control the growth of the operation or to "earmark" the disposition of income from parking meters. Inadequate legislation and a complete



Although both sides of the dial of this meter bear calibration marks, the calibration marks are too small. Also, the instructions are confusing. The instructions on one side of the meter are in Spanish and state that the advertised rate is 5 cents per half-hour from 8:00 A.M. to 7:00 P.M. Instruction plate on other side of meter is in English and states that the charge is 10 cents per hour from 8:00 A.M. to 9:00 P.M. and that the maximum time capacity has been set at three hours. This meter is in service in Morristown, N.J.

lack of adequate engineering specifications regarding the design and construction of the meters permitted abuses to accompany the growth of this ever-spreading new monopoly. Motorists found themselves being "short-timed" by meters that operated incorrectly. Further, in some areas, municipal authorities used what were essentially "third degree police methods" in charging motorists, without proper evidence, with overtime parking falsely indicated by defective meters. Thus, many motorists were forced to pay fines and plead guilty to wrongs they had not committed. In one community more than 480 parking meters were found to be defective or out of order at one time or another during 1958. More than 2000 parking violation tickets were issued (illegally) because of these defective meters.

The investigations and tests which form the basis for this article were made over a period of about one year. During that time, investigators

made visits to several municipalities along the East Coast, in the Midwest, and to Los Angeles and Hollywood in the West. Some municipalities cooperated fully in making needed information available; others did not.

Any aura of secrecy surrounding the purchase and use of parking meters is improper, and an injustice to the public because taxpayers' (or public) money is used in the procurement and maintenance of parking meters. Certainly, the amounts spent for parking meters should be matters of public knowledge.

Consumers' Research's "street-side" and laboratory tests, in which well over 1000 "in use" meters were tested along with five test samples of each make which were subjected to laboratory tests, showed that many of the different kinds of parking meters tested were deficient from several standpoints. In many cases, the meter would accept a coin but would give no indication of parking time. In other cases, the meters would not accept coins because of faulty coin receivers. Often, time would be indicated, but incorrectly. In summary, the tests indicated that (1) the number of "out-of-order" meters was much too high; it varied from 18 to 38 percent in different areas. (2) Many meters failed to operate satisfactorily after short-term exposure to temperatures below 15 degrees. (3) Maintenance costs were much too high, principally because of faults of design. (4) The markings on many dials were inadequate in number and difficult to read. In areas where collections of nighttime parking fees were authorized, internal illumination was completely absent and dial markings could not be read without use of a match or a flashlight. Obviously there is great need for engineering specifications covering parking meters and defining functions and accuracy which can be used by municipal authorities when making their purchases.

Consumers' Research does not approve of the present extensive use of parking meters. However, for the information of municipal authorities who may be confronted with the practical problems of selection and purchase of parking meters, a few tentative specifications are included. If meters must be used, it is felt that a meter capable of meeting the minimum standards outlined will be found satisfactory both by the municipality which buys it and by the taxpayer who must use it and pay its demands.

**Type of operation.** Dependable automatic "Clock" or "Lock and Key" type of operation with a suitable method provided to indicate that a collection from the motorist has been made by the municipality.

**Timer mechanism.** Dependable automatic operation with time-keeping regulation better

than 0.1 percent. Not less than 5 minutes of discretionary overtime\* on meters indicating up to 12 minutes; not less than 10 minutes of discretionary overtime on half-hour and one-hour meters; not less than one-half-hour discretionary overtime on meters indicating more than one hour of parking time. Positive provision to indicate to user and enforcement officers any "short-timing," "skip-timing," or jamming of timing mechanism and indicator or malfunctioning.

**Weatherproofness.** Timer mechanism and indicator mechanism shall be housed in a weather-proof case and be unaffected by changes in relative humidity (over a range of 30 percent to 100 percent) and slow or sudden changes in temperature (from -20° to +135°F).

**Markings, outer case.** Both sides of the outer case shall contain complete instructions in simple language, in English.

**Dial and dial markings.** a. Dials shall be white in color and marked clearly on BOTH sides as stated below.

b. Calibration marks and appropriate numerals or letters shall be black in color. Letters or numbers shall be at least  $\frac{1}{4}$  inch in height and plainly visible in daylight with normal vision at distances up to 15 feet from the meter. Calibration marks shall be at one-minute intervals for meters indicating up to 1 hour, with a minimum of 25 marks for meters indicating up to 5 hours. Accuracy of time remaining as shown by the pointer and calibrated scale shall be within 5 percent. A violations flag, if one is used, shall not cover or interfere with the reading of any dial markings.

**Mounting.** The meter case shall be so designed that it can be mounted securely on a vertical pipe or post 2 inches in outside diameter. The mounting hole shall not require the use of a special collar, fitting, casting, or other extra accessory.

**Warranty.** Five-year unconditional warranty on performance and on parts and service.

Consumers' Research is well aware that specifications are often carefully worded so as to exclude one or more brands of a particular item. We are also aware that in the spirit of free enterprise one should not require that all parking meters be identical in appearance and construction as the casual reader of specifications might infer. We do feel that wide latitude in design and construction can be maintained while following the specifications given. In essence, they are not meant to exclude brands but rather to exclude those meters which are clearly in need of drastic design changes.

More explicitly, there is no reason why the per-

formance of a well-designed parking meter should be subject to the vagaries of the weather. Any meter offered for purchase to a municipality should operate satisfactorily in hot, cold, sunny, rainy, or muggy weather. Our tests indicated that few meters function satisfactorily at temperatures below 15°F or under conditions of moisture condensation or high—90 percent—relative humidity. Many a motorist has been fined because of this humidity-temperature weakness of meters.

The dial markings on several of the meters were too small to be readily seen at a reasonable distance by the user. Possibly the intent here was to help confuse the user. We feel that dial markings should be as legible as it is possible to make them in the ample space available. Black letters or numbers of adequate height printed on white backgrounds will certainly improve the readability of many meter dials. In addition, the motorist should obviously be able to read the meter from both sides. This construction presents no great problem to the manufacturer and has its obvious advantages for the meter user.

Three additions which Consumers' Research would like to see made in design are: (1) the inclusion of a counter which would register the amount of money collected; (2) the use of a separate, locked coin-collecting box within the meter (now available on some models as an extra); (3) provision in the meter for supplying a suitable receipt indicating at the time of payment the parking time paid for.

The counter and locked box would provide a means whereby some control could be maintained over collections from the meters. Properly used, they would remove a source of temptation to municipal employees who may now be going from meter to meter and emptying the loose coins from each meter into a common container without counting the amount or knowing how much money each meter should contain.

The metered receipt could be used in court by the motorist to obtain affirmative relief from penalties for overtime parking when he was "short-timed" or "short-changed."

The brief listings following are not likely to be directly useful to most ultimate consumers. They have been included in the article with the thought that they will be of direct interest to those subscribers who are directly concerned with the parking meter problem because of positions they may hold as city officials in a local governing body.

#### C. Not Recommended

**Duncan Street Model** (Duncan Parking Meter Corp., Chicago) Cost \$40 and up, plus extras. Serial numbers H-7, H-10, H-14, H-18, and H-37 were tested. Spring-

\* Discretionary overtime is a time interval beyond that actually paid for during which the meter still registers. It is an overtime allowance set into the meter at the factory to compensate for differences in time received because of poor regulation of the timing mechanism.

wound clock timer required rewinding every 10 to 14 days. The small scale and very small pointer located at the top of the dome-shaped meter were difficult to read. Required considerable maintenance to assure proper operation. Coins were difficult to insert. Mechanism failed completely in low temperature and high humidity tests after 60 to 400 cycles. Coin receiver jammed easily.

**Karpark Unimatic** (Karpark Corp., Cincinnati) Cost \$35 to \$90, plus extras. Spring-wound clock timer required rewinding every 10 to 14 days. Frequent maintenance required, with consequent need for a stock of spare parts. Required frequent adjustment to maintain proper operation. Failed low-temperature and high-humidity tests. Dial markings were small, and shown only on sidewalk side of meter. Meter jammed easily after a few use cycles. Coin receiver jammed by freezing rain. Violation flag may appear prematurely.

**Mi-Co Meter, Twin Model E or 1PM-773** (Mi-Co Meter Div., Michaels Art Bronze Co., Covington, Ky.) About \$75 for single, \$100 for twin meters, plus extras. Spring-wound timer required rewinding every 10 to 14 days. Frequent maintenance required. Large stock of spare parts must be maintained. Required constant adjustment to maintain proper operation. Jammed easily when humidity was high. Coin receiver susceptible to jamming. Dials facing street and sidewalk, too small. Some samples failed after 10 use cycles, when subjected to high humidity.

**Parkit Lockit, 12 hour model** (Parkit-Lockit Co., Newtown, Ohio) Approximately \$33 installed. No clock or mechanical timer. Meters are intended for use in control of commuter parking. Operated by municipal employee who turns a key in the meter lock to see coin in window and drop it into coin collector. Coins jammed after 400 to 600 test cycles. Meter passed low-temperature and high-humidity tests, but coin receiver and indicator lock were jammed by freezing rain.

**Park-O-Meter, 1 hour type** (Magee-Hale Park-O-Meter Co., Oklahoma City 12, Okla.) About \$56.50 to \$66.50 installed. Spring-wound clock timer required rewinding

every 7 days. Clock timer was in weatherproof box but external mechanism was not. Required regular maintenance and some spare parts to attain proper operation. Coins "slipped" through the mechanism without registering any time after 300 to 500 use cycles. Older meters tended to jam in high humidity. Freezing rain jammed coin receiver. Dial size was adequate, but markings, although larger than average and on both sides of meter, were too small. Meter passed low-temperature and high-humidity tests.

**Rhodes "Mark-Time"** (M. H. Rhodes, Inc., Hartford 7) Cost \$36, plus extras. Hand-cranked mechanical timer. Very frequent maintenance required. Meter had tendency to skip-time or short-time the motorist. Meter failed low-temperature and high-humidity tests. Dial size and markings judged too small. Poor mechanical design and poor quality control were the apparent causes of jamming of coin receivers after 100 to 500 use cycles. Requires large stock of spare parts or return to the factory for repairs.

**Rockwell, Models S-GSL-4A (5 hr.) and SG-4 (1-2 hr.)** (Rockwell Industries, Canton, Ohio, and Tulsa, Okla.) Cost from \$60 to \$83 each, installed, depending on quantity purchased. Spring-wound clock timer. In general, the *Rockwell* was the best meter tested. The ticking clock timer could be heard a short distance from the meter and provided some assurance to the user that it was functioning satisfactorily. Markings, on one side of the dial only, were too small and scale too condensed. Timing mechanism was partly weatherproofed, a good feature. Meter could be jammed mechanically. Meter had tendency to "recycle" after 350 to 550 use cycles after which no time was registered and mainspring became unwound. All meters of this make tested passed low-temperature and high-humidity tests but failed "freezing-rain" test. \*If minor changes, including a counter to register amount collected and means to provide taxpayers with a "metered receipt" of time paid for were incorporated in these models, they would qualify for a higher rating.

## Emendations to Consumer Bulletins

**The new look in vacuum cleaners**  
Page 11, col. 2, and page 12, col. 1, June '59 Bulletin

The first cleaner in the A group should be listed as *Eureka Model 1010*. (It was called *Model 1001* through a typographical error.)

The listing for the *Kenmore Satellite with Power-Mate Motor Driven Brush* should be moved to page 11, following the listing of the *Hamilton Beach Hatbox Model 29*, so that the alphabetical order will be correct within the price groups.

**Toothbrushes**  
Page 30, Mar. '59 Bulletin

Change the rating of the *Lactona* natural bristle brushes, No. 12 and No. 18, from C. Not Recom-

mended to B. Intermediate. Despite the much shorter life of natural bristle brushes as compared to those made with synthetic fibers, some well-qualified dentists think natural bristle brushes are better. At one time synthetic bristles had squared tips, which could harm teeth and gums. Most makers nowdays, however, are reported to heat treat the bristles to obtain rounded tips. The American Dental Association's Council on Dental Therapeutics does not comment on this subject in its published material on toothbrushes. The Council office states that evaluation of various reports "does not suggest that one type of bristle is significantly better than the other."

## "Miracle" additives for your car's crankcase?

HOW WELL do you think your car would run if its crankcase were filled with a mixture of *Coca-Cola* and a household cleaning solvent?

Suppose someone "demonstrated" to you the suitability of this odd mixture or even its superiority as a lubricant? Would you then use it in your car instead of motor oil?

Well, believe it or not, a university-associated research foundation actually found that a mixture of *Coca-Cola* and carbon tetrachloride exhibited lubricant "film strength" characteristics better than those of some motor oils. This result was obtained during experiments with a device being evaluated for the testing of motor oils. Other tests with the same apparatus appeared to show that the film strength of oil could be improved by addition of certain proprietary additives, such as *Wynn's* or *Bardahl* (see September 1951 BULLETIN). However, the *Coca-Cola* and carbon tetrachloride mixture showed up even better than some of the popular oil and additive mixtures. ("Carbon tet" was much used as a home solvent until hundreds of injuries and deaths in recent years demonstrated its highly poisonous nature.)

Does this mean that adding some *Wynn's* or *Bardahl* to the oil in your car is a good idea—or, perhaps, that draining out the oil and replacing it with *Coke* and "carbon tet" would be a still better way to lubricate your engine?

It is not difficult for an average motorist to come to the conclusion, on his own, that a soft drink and a toxic solvent sometimes used for spot removal are just not suitable to serve as automobile lubricants, either separately or when used together. And any testing machine or test procedure that gives good results for this extraordinary mixture is surely not to be relied upon as a sound and sufficient means to evaluate products for use in a car's crankcase. Yet "demonstrations" with a variety of mechanical gadgets have been widely used to sell additives by "proving" their ability to give extra load-bearing qualities to the oil.

### Demonstrations—they are "loaded"

The important questions to keep in mind about any demonstration of the supposedly desirable effects of an automotive additive or "dope" are:

1. Are the test conditions similar to the temperature, pressure, and other conditions to be found in the engine of a car? (In many cases, *more* severe test conditions than needed are just as bad and just as misleading as *less* severe ones.)



Even big concerns like Du Pont cater to motorists' willingness to accept at face value claims of special merits for wonder-working products to be mixed with the oil in their cars. According to statements on the Du Pont can, Du Pont M.O.A. was "double checked in Du Pont laboratories and road tested in over 4,000,000 miles of driving." An interested consumer who asked for technical details and data obtained in the laboratory and road tests, so that he might buy intelligently, received copies of promotional literature, but no specific details about the test procedures used, or test results which might support the claims shown on the display card above. (Yet Du Pont's claims are relatively restrained, compared to others in the field.) One must read carefully, though, to understand just what is claimed and what is not. Consider: "Maintains new car power" (not restores power to the car), "Reduces engine wear" and "Reduces valve sticking" (no claim it eliminates these problems, and no clue as to how much reduction, which might perhaps be slight or negligible), "Prevents sludge formation" and "Keeps engine clean" (not removes sludge or cleans an engine already dirty or fouled).

An interesting point in Du Pont's literature is that M.O.A. is used by some major oil companies (not named), but that using it in the proportions recommended by Du Pont (one part in 12 parts of oil) would result in such a high price for the compounded oil that consumers might not buy it. This suggests an odd picture of a consumer unwilling to pay for the additive if already mixed into an oil in adequate proportions, but glad to buy it separately and perhaps pay for more than needed if he happens, unknowingly, to have some already present in the compounded oil in his crankcase.

2. Is the characteristic being demonstrated a necessary (or even desirable) one, and if so, is it perhaps obtained only with sacrifice of another quality that is equally or more important?

3. If it is so important for the product to have the qualities evidenced in the one being demonstrated, how does it happen that other manufacturers have not given these properties to their

products? There are no secrets that can be kept from a competing manufacturer who really wants to know what makes his competitors' products exhibit certain physical and chemical properties.

#### **Consider carefully before you buy**

A moment's thought will show that the important questions about lubricants can be answered only by experts. The casual observer witnessing a demonstration is in no position at all to come to useful conclusions. Thus no average auto owner should give weight to demonstrations of the claimed superior properties imparted to oil by various nostrums. At best, the demonstration is without real significance to anyone who lacks the expert's ability to evaluate it. At worst, it is likely to be deliberately tricky and misleading. One big distributor had an extremely convincing demonstration of a quack device for allegedly improving the ignition of a gasoline engine. When the device was not connected, one spark plug was surreptitiously disconnected by a concealed switch which caused one cylinder to miss; when the device was connected, the missing cylinder was fed the proper and normal spark. Immediately the engine ran evenly and faster, "proving" the marvelous effectiveness of the ignition booster. The engine did indeed run better, but the prospective customer thought it ran better because of the spark intensifier that was being "demonstrated."

The same caution applies to some demonstrations right in the user's own car. For example, a favorite trick is to show that the car's idling speed with fixed throttle is increased by adding a certain magic fluid to the crankcase. The catch here is that *anything* that lowers the oil's viscosity will have this effect—kerosene, for example, or an oil of lower SAE viscosity rating than is already in the crankcase. One could get the same effect by using water instead of oil in the crankcase (for a brief period, anyway).

A large number of chemical specialties are on the market which are supposed to add some special quality to the lubricating oil in the crankcase of an automobile. They are sold under various brand names such as *Alemite*, *Bardahl*, *Casite*, *Champion Q-X*, *Dupont M.O.A.*, *Essentialube*, *Kar-aid*, *Lubri-Loy*, *Micro-Lube*, *Miracle Power*, *Motor Care*, *Motor Overhaul*, *Motor Cure*, *Plyon Q-X with Moly*, *Pyroil*, *Rislone*, *Wynn's*, and many more.

#### **What's in the crankcase additives?**

Many "miracle" products are made up chiefly of such common materials as naphtha, kerosene, or light lubricating or fuel oil; sometimes methyl or ethyl or higher alcohols may be present, or solvents such as benzene, xylene, nitrobenzene,

aromatic petroleum distillates or coal-tar distillates. Even such compounds as carbon tetrachloride, trichlorethylene, or ethylene dichloride may be present, and one or two manufacturers have actually introduced graphite into their mixtures. A few of the additives may actually contain useful ingredients, detergents and oxidation and corrosion inhibitors, of the sort that enter into modern premium (MM) and heavy-duty (MS) lubricating oils.

At best most crankcase dopes are of dubious value, and a good many of them are sold under quite misleading claims. Their existence and wide sale to motorists depend on the fact that it is difficult and expensive to prove or disprove their having the asserted qualities, added to the fact that there is a general lack of knowledge about the basic action of additives, and a willingness on the part of many a consumer to believe a considerable number of quite unscientific and impossible claims, when they are things he *wants* to believe.

#### **Engine "purges" can cause trouble**

Mr. Carl W. Georgi, who is an authority in this field and author of "Motor Oils and Engine Lubrication," published by Reinhold Publishing Corp. (now out of print but available in some libraries), advises against the use by laymen of special oil additives. He also says that "Crankcase solvent or 'purge' additives cannot safely be added to the crankcase oil if the engine is to be used in regular service, and should only be applied by an experienced mechanic where the engine can be watched carefully during treatment and shut down immediately if there is any indication of disrupted oil flow. Following such treatment, a thorough draining and flushing is essential to remove loosened sludges and solids before fresh oil is added. In respect to engines which are suspected to contain heavy deposits, the best practice is to remove the crankcase oil pan immediately after a 'purge' treatment to enable inspection and cleaning of the lower engine and oil pump intake screen assembly." Complete removal of engine deposits calls for tearing down of the engine and a thorough overhaul; nothing less will do the job.

A committee of the Society of Automotive Engineers had access to the results of many tests with "varnish," "lacquer," and sludge solvents and found that in every case the amount of deposit removed was such a small percentage of the amount present that it seemed "that benefits are minor or short-lived. In addition, use of such solvents involves some risks in that (1) those deposits which are loosened may contain grit which is then circulated through the lubricating system to bearings and cylinder walls and (2) enough de-

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Motor Vehicle Flame  
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Attn. Mr. Bert J. Friedlob  
President

REPORT ON: Road Service Testing of Motor Overhaul

METHOD: One can of Motor Overhaul was used in the crankcase of a 1951 Packard Sedan shortly after an oil change. Light weight #10 oil was used. Car was checked by compression tests, smoothness of running, acceleration in high drive from dead stop, and a grueling 1500 mile trip made on a practically non-stop basis at highway speeds. Starting mileage on the car was 78,430.

The Certified Test Report, fully reproduced and described in an enclosed circular, is the PROOF of MOTOR OVERHAUL's miraculous performance, even in the oldest cars. Show the Laboratory Test Report, bearing the Seal of Certification, to every customer. It's his GUARANTEE that MOTOR OVERHAUL can work similar miracles in the motors of his cars and trucks. Let the Seal do much of the selling for you!

There is no doubt but that with the adequate practice of changing oil every 1500 to 2000 miles and using Motor Overhaul with each oil change, the life of the engine may be extended for an indefinite period of time.



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*Paul W. Stokesberg*  
Paul W. Stokesberg  
Director

### From promotional literature using "the testing laboratory appeal"

Claims of "laboratory tests," "approval," and "certification" must be evaluated in terms of the laboratory's reputation and the professional standing, professional society memberships of its officers and employees, published technical and scientific papers, etc. Even more important information, of course, is just what tests were made and with what results. Often merely a careful reading of a laboratory report will show that it gives little if any real evidence regarding the product's true merit. In the excerpts above, it may be seen that the "exhaustive on-the-road tests" by a laboratory involved the use of but a single can of the additive in question. The sweeping conclusion that "no doubt...the life of the engine may be extended for an indefinite period of time" is so clearly unsupported by the limited tests performed as to cast grave doubt on the reliability of opinions expressed by the "renowned" American Research and Testing Laboratories, on this subject at least.

Posits may be loosened to enable completely clogging the already partially clogged oil pump screen."

Georgi comments on additives that are claimed to impart increased "oiliness," "film strength," or "lubricity" to motor oils: "A search of the technical literature indicates no accepted test evidence to substantiate such claims; . . . the addition of such materials to motor oils is of questionable value." He makes the point that the manufacture of a finished motor oil of adequate qualities and properties should be the job of the refiner, and that the consumer should not need to "compound" his own motor oil by buying oil and crankcase additives and mixing them in his engine. "In fact, indiscriminate mixing of some types of addition materials with many modern compounded motor oils may involve incompatibility and thus lead to undesirable results in the way of sludge formation, bearing corrosion or accelerated oil deterioration, rather than improvement."

Some of the motor oil additives are harmless, and some contain undesirable ingredients that may interfere with the proper starting of an engine or its proper operation on the road. Fortunately for

consumers, most of the additives are harmless (even though useless).

Some of the added ingredients are so volatile that they disappear quickly from the engine and thus could not possibly perform any substantial service. Your engine does not need "doping" any more than you need aspirin tablets every day.

A valuable treatment of this subject appears in National Petroleum News, issue of January 21, 1953, entitled "Are Motor Oil Additives Useful?" and we are glad to credit some of the comments in the foregoing to that journal. See also the brief discussion of "moly" additives in CONSUMER BULLETIN of April 1954 and an article based on the work of Georgi in The Autocar (a British journal for car owners) of July 16, 1954. Georgi found that within the limits of reproducibility of test findings, the "engine did not recognize any friction-reducing properties in the three substances [one containing colloidal graphite, one molybdenum disulfide, one a lead soap], there being no difference in the fuel consumption from the consumption with the oil alone to which they were added."

● OFF THE EDITOR'S CHEST

## *How long do you want things to last?*

OBSOLESCENCE has been called an American way of life. The practice of turning out new models of household appliances, automobiles, and television sets every year to make a preceding model out of date, that sets a high figure for depreciation on such items the minute they are removed from the salesroom by the purchaser, is claimed to be an essential factor in keeping the wheels of industry turning rapidly.

It is said that Americans don't want their purchases to last, that they want something newer and bigger, flashier and more colorful, with more knobs, handles, dials, and gadgets than the last model. In the past two or three years, however, the industrial stylists who are the chief advocates of "planned obsolescence" have had occasion to wonder whether this evaluation of consumers' buying habits is really an accurate or sound basis for market planning. The attempt to make the housewife dissatisfied with plain white kitchen equipment by displaying pink refrigerators, blue stoves, and yellow sinks came a cropper and, as the automobile industry knows only too well, many consumers are not turning in their cars each year for new windswept, back-finned, 8-tail-lighted monsters in gaudy color combinations and chrome trim. Instead, they are purchasing small, economical, compact, one-color, foreign cars in numbers that can no longer be ignored by Detroit, which is currently doing considerable talking about getting into the low-priced, small car field.

The failure of the consumer to respond to the lure of annual model changes is so widespread that company executives have begun to talk disapprovingly about "phony obsolescence." Several home appliance firms have cut back the number of models they planned to put out each year, while a few have announced plans to eliminate annual model changes entirely. Even the clothing trade, where it is generally accepted that the fashionable woman would not think of going to a party in last year's clothes, had difficulty putting over the sack, the trapeze, and other bizarre styles in an attempt to pressure women into throwing away last year's wardrobe.

The suggestion in an industrial design magazine that an engineer in a prominent portable radio manufacturing company had intentionally designed his product to last not more than three years brought a storm of disapproval from the magazine's readers, including several company executives. Some letter writers, however, made

the point that a concept of limited life for appliances was not inherently a bad one, provided the price was correspondingly low. It was noted that few people today would want an appliance to last like the "wonderful one-hoss shay" which "ran a hundred years to a day." A product designed for a three-year-life service *and* made to sell for one third the price of a product designed for eight years of service would obviously have sales appeal to a good many purchasers.

Several letter writers suggested that it was a matter of great interest to consumers that all component parts of a product should have about the same life expectancy. This seems to be a reasonable position and one that most householders would heartily endorse.

It is quite probable that much of the consumer's dissatisfaction with appliances that has been held partly responsible for the decline in sales in the last two or three years could be dispelled by more attention on the part of manufacturers to designing trouble-free appliances. The question may well be raised whether consumers really want longer-lived products at the higher prices that would necessarily be required. For years there has been talk of a longer lasting automobile storage battery. Social critics have complained that manufacturers were holding back on the development of such a battery because it would cut down on their sales. But when the nickel-cadmium battery was scheduled to be put on the market in 1955 by the Sonotone Corporation and by Chrysler at prices ranging from \$140 to \$200, with an estimated life of 10 to 15 years, there was little consumer excitement and little evidence of a desire to buy. It turned out that the person who would chiefly benefit from an automobile battery with a life of 10 years would be the purchaser of the car second hand, a car that had been turned in on a new automobile. At the increased price, the probabilities were that the initial purchaser of a car with such a battery would not get sufficient return on his investment to warrant his extra outlay, since he would have little chance to collect any substantial part of it from the person buying the car from him.

Studies carried out by the U. S. Department of Agriculture on the probable service life of various appliances have indicated that families buying new electric refrigerators and electric and gas ranges use them for an average of 15 years before replacing them with later models. Electric wash-

ing machines, automatic, wringer, and spin-drier types, were replaced after nine years. According to figures from Battelle Memorial Institute, the wear life of washing machines and ironers is placed at five years, refrigerators at 12, and other appliances at 10 years.

These are averages, of course, relating to machines made 5, 10, and 12 years or more ago; actual life will depend on proper installation, as well as how much use, expert care, and servicing attention are given appliances in individual cases. One industrial designer has suggested that, in consideration of efficiency and safety, seven years is an adequate life span for any appliance. Another design expert has suggested that to keep a kitchen operating on an efficient basis it may be desirable to remodel it every five years. He cited, as an example, the matter of systems for ventilation, which are constantly changing in design, and predicted that in certain sections of the country all homes will be air conditioned in the future,

thereby solving the problem presented by the extra sources of heat in the kitchen.

The phrase "planned obsolescence" is a term of opprobrium, a "dirty word," and one engineer thinks it should be replaced by the phrase "efficient design." Furthermore, it appears that women are not at all adverse in principle to the concept of obsolescence. They like the idea of something new, but a good many of them do want to get improved values in making a new purchase, not just novelty.

Manufacturers, it is reported, are beginning to recognize that change for change's sake has somehow lost its lure. Who knows? Perhaps some smart appliance manufacturer will recognize that today the servicing of the many appliances the average household now uses is a major headache in most homes, and will make the necessary design changes to turn out models guaranteed to require little or no servicing over their expected life span. That will be the day!

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# Phonograph Records

BY WALTER F. GRUENINGER

Please Note: Stereo records are indicated by the symbol  $\circledcirc$ . Ratings (AA, A, B, etc.) apply first to the quality of interpretation, second to the fidelity of the recording.

**Beethoven:** *Symphony No. 3*. Vienna State Opera Orchestra under Scherchen. Westminster KWN 18800. \$4.98. A new recording by the same group listed in the Schwann catalog under Westminster 18315. There is no question that the great "Eroica" symphony appeals to Scherchen. His interpretation ranks among the best on LP's despite his fast fourth movement which gobbles up orchestral detail and detracts from the majesty of the piece. My preference continues for the Reiner-conducted Victor LM 1899, Bruno Walter-conducted Columbia ML 5320, Klemperer-conducted Angel 35328 and, though it is less well recorded, the Toscanini-conducted Victor LM 1042.

**Beethoven:** *Symphony No. 9*. Berlin Philharmonic under Fricay with Choir of St. Hedwig's Cathedral and soloists Seefried, Forrester, Haefliger, Fischer-Dieskau (3 sides) and *Leonore Overture No. 3* and *Egmont Overture* (1 side). Decca DXB 157. \$7.96. The great Ninth has been performed better on LP's, notably on Victor LM 6043 with Furtwängler and Victor LM 6009 with Toscanini. Fricay is energetic and flexible but the touch of greatness has escaped him. The vocal quartet, sparked by Fischer-Dieskau, boasts other distinguished soloists who prove no more than adequate in their difficult parts. Warmly recorded orchestra and soloists but the chorus, as usual in this symphony, sounds muffled, unimpressive. It needs stereo.

A A

**Gabrieli:** *Processional and Ceremonial Music*. Choirs and Orchestra of the Gabrieli Festival under Appia. Bach 5004. \$5.95. Magnificent sound, full and as broad as the side of the living room. The music reflects the pageantry of the Venetian church ceremonial. Splendidly conducted and sung.

AA AA

**Handel:** *Water Music*. Concertgebouw Orchestra under van Beinum. Epic LC 3551. \$4.98. Robust, virile music that is a joy to hear as conducted by the late van Beinum. In all, 20 pieces. There's no better performance of it in the catalog. Fine recording.

AA AA

**Puccini:** *La Fanciulla del West*. Tebaldi, Del Monaco, MacNeil, Tozzi, etc., under Capuana. 6 sides, London OSA 1306. \$17.94. Though the opera has never attained the success of *Butterfly* or *Bohème*, it deserves an occasional hearing, particularly when it is so well performed as here. Among the principals there's not a weak artist. The ensembles and choruses come off beautifully, too. And the recording is something to marvel at. In every way, a superior set.

AA AA

**Strauss:** *Also Sprach Zarathustra*. Berlin Philharmonic under Böhm. Decca DL 9999. \$3.98. Not Richard Strauss' best tone poem, but an effective one. If it weren't for the superb performance and recording of the Chicago Symphony on Victor LM 1806, this set might rate higher than it does. It's good but less than the best available in performance and fidelity.

A A

**Tchaikovsky:** *Serenade for Strings & Mozart: Eine Kleine Nachtmusik*. Israel Philharmonic under Solti. London CS 6066. \$4.98. Tuneful, masterful string music, standards in the repertory offered in an appropriate coupling. Craftsmanlike, agreeable performance superbly recorded.

AA AA

**Tchaikovsky:** *Nutcracker Suite & Mendelssohn: Incidental Music to A Midsummer Night's Dream*. Hollywood Bowl Symphony under Slatkin. Capitol SP 8404. \$5.98. One does not grow tired of this melodic, youthful music no matter how often it is heard. The orchestra seems exceptionally well rehearsed and the direction is quite marvelous. So is the round, full sound.

AA AA

**Argentine Tangos.** Jo Basile, His Accordion and Orchestra. Audio Fidelity AFLP 1869. \$5.95. Principally famous tangos such as "La Cumparsita," "Adios Muchachos," "Jalousie," "El Choclo," etc. Basile plays the

accordion masterfully and he knows the tango style. Pleasant listening. Transparent, full bodied recording.

AA AA

**Curtain Going Up.** Orchestra under Lehman Engel. Columbia CS 8094. \$5.98. Overtures of Broadway's hit shows including "Kiss Me Kate," "Can-Can," "Gentlemen Prefer Blondes," "Wonderful Town," and others. Bursting with joy. Played loud as in the theater, featuring brass. Just the nicest Broadway souvenir one can imagine. Recorded with commendable separation of instruments and good range.

AA AA

**Erich Kunz Sings German University Songs.** Vol. 3 (baritone). Vanguard VRS 2020. \$5.95. Present in large doses is the tradition of romantic Teutonic folksong. The full orchestra and chorus and the rich singing of soloist Erich Kunz vibrate the heart strings. Little difference in recording quality between the mono and stereo disks, for both are excellent. If the music appeals to you, by all means look up the two previous volumes in this distinguished series. Included are "Du Du Liegst Mir Im Herzen," "Lauterbach," "Oktoberlied," "Fiducit," "Studentenleben," and others.

AA AA

**In the Mood.** Heinz Kretzschmar and His Orchestra. Vox ST VX 25830. \$5.95. Big dance band production of "Colonel Bogey," "Island in the Sun," "Bugle Call Rag," "Midnight Blues," etc. Played with plenty of sizzle. Recording clearly demonstrates the two-channel effect. In the "Colonel Bogey March," on stereo, the whistlers and the band travel from right to left, whereas on mono they travel from rear to front to rear!

AA AA

**Marches from Operas.** Virtuoso Symphony of London under Winograd. Audio Fidelity FCS 50,008. \$6.95. Firm beat, appropriately nuanced playing of marches from "Carmen," "Meistersinger," "Tannhäuser," "Figaro," "Prince Igor," and others. Old friends to many, and pleasant, tuneful listening to nearly everybody. Clear, spacious recording.

AA AA

**Music of Guillaume Dufay.** Dessoff Choirs under Boepple. Bach 5008. \$5.95. A cross section of this distinguished 16th-century composer's work. Impressing singing by the tenor soloist, Leslie Chabay, and by the choir under a conductor who specializes in pre-Bach music. Monophonic recording very nearly equals the stereo, which is excellent.

AA AA

**Ruggiero Ricci Virtuoso Showpieces (violin).** London CS 6039. \$4.98. This dazzling violinist has never been recorded to better advantage. Powerfully, impeccably he plays a dozen encore numbers including "Scherzo Tarantelle," "La Capricieuse," "Banjo and Fiddle," "La Ronde des Lutins."

AA AA

**Songs and Dances of Spain.** Vol. 10—Castile. Recorded in the field by Alan Lomax. Westminster WF 12022. \$4.98. Fascinating disk in an absorbing series. Lomax, an authority on folkmusic, apparently took his tapes and mike to Spain and recorded every bit of folk music he heard. This disk abounds in short, earthy pieces featuring uncultivated voices and such instruments as the dulzaina, ximbomba, rabel, guitar. Anyone interested in folk material must count this disk a real find. Satisfactory recording.

A A

**Sylvia Marlow Plays Music for the Harpsichord (harpsichord).** Decca 10001. \$3.98. Sonatas by Haydn and Mozart and short pieces by Couperin, Rameau, Daquin, McPhee, etc. Despite the fact the playing sometimes sounds heavy handed and unimaginative, it is better than passable. The fast movements fare better than the slow ones. Very well recorded.

AA AA

**The Hi Fi Deutschmeister Band.** Westminster WST 15030. \$5.98. Vienna's famous band plays the "White Horse Inn Medley," "Der Bua vom Donautal," "47th Regiment March," and four others with the fat tone and precision you would expect. Expansive sound.

AA AA

## Ratings of Current Motion Pictures

THIS SECTION aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

*Bosofice, Cue, Daily News (N. Y.), The Exhibitor, Films in Review, Harrison's Reports, Joint Estimates of Current Motion Pictures, Motion Picture Herald, National Legion of Decency, Newsweek, New York Herald Tribune, New York Times, The New Yorker, Parents' Magazine, Release of the D. A. R. Preview Committee, Reviews and Ratings by the Protestant Motion Picture Council, The Tablet, Time, Variety (weekly).*

The figures preceding the title of the picture indicate the number of critics whose judgments of its entertainment values warrant a rating of A (recommended), B (intermediate), or C (not recommended).

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure  
biog—biography  
c—in color (Anso, Eastman, Technicolor, Trucolor, Warner Color, etc.)  
car—cartoon  
com—comedy  
cri—crime and capture of criminals  
doc—documentary  
dr—drama  
fan—fantasy  
hist—founded on historical incident  
mel—melodrama  
mus—musical  
mys—mystery  
nor—dramatization of a novel  
rom—romance  
sci—science fiction  
soc—social-problem drama  
trap—travelogue  
war—dealing with the lives of people in wartime  
west—western

A	B	C	A	B	C					
—	2	1	Accursed, The (British)	mys-mel AY	—	9	5	Doctor's Dilemma, The (British)	dr-c A	
—	—	3	Adultrous, The (French)	dr A	—	3	5	Eighth Day of the Week, The (Polish)	dr A	
—	3	1	Affairs of Julie, The (German)	com-c AY	—	5	2	Embezzled Heaven	dr-c AY	
1	9	4	Al Capone	cri-mel A	—	5	4	Escort West	wes AY	
—	1	9	Alaska Passage	mel A	—	1	3	Face of a Fugitive	wes-c AY	
—	6	2	Alias Jesse James	wes-c AYC	—	4	1	First Man into Space (British)	sci AY	
—	6	10	Anna Lucasta	dr A	—	4	4	Five Pennies, The	mus-biog-c AY	
—	3	—	Antarctic Crossing (British)	doc-c AYC	—	5	3	Flesh and Desire (Italian)	dr A	
1	8	2	Apurajito (India)	dr AY	—	4	4	Floods of Fear (British)	cri-mel A	
—	1	6	Arson For Hire	cri-mel A	2	3	Forbidden Fruit (French)	dr A		
2	3	—	Ask Any Girl	com-c A	—	1	3	Four Skulls of Jonathan Drake, The	cri-mel A	
3	13	2	Auntie Mame	com-c A	—	4	4	Giant Behemoth, The	cri-mel AY	
—	2	2	Bad Girl (British)	dr AY	—	—	1	2	Gidget	mus-rom-c A
—	3	6	Bandit of Zhoibe, The (British)	dr-c AYC	—	7	4	Gigantis, The Fire Eater	sci AY	
—	2	2	Battle Flame, The	war-dr A	—	1	2	Girl with an Itch	dr A	
—	—	3	Bear Generation, The	soc-dr A	—	1	2	Girls Are Willing, The (Danish)	com-c AY	
—	3	—	Beyond this Place (British)	dr A	—	3	1	Girls of the Night (French)	soc-dr A	
1	11	4	Black Orchid, The	dr AYC	—	1	2	Go, Johnny, Go	mus-com AYC	
—	9	6	Blob, The	sci-mel-c AY	—	3	6	Good Day for a Hanging	wes-dr-c AYC	
—	5	5	Blood of the Vampire (British)	mel A	—	—	—	Grand Canyon	mus-doc-c AYC	
—	1	2	Blue Peter, The (British)	mel A	—	3	1	Great St. Louis Bank Robbery, The	cri-mel A	
2	1	—	Boot Polish (India)	dr A	—	3	9	Green Mansions	nov-c AY	
—	2	6	Born Reckless	wes-mus A	—	6	4	Guitars of Love (German)	mus-dr A	
3	6	6	Buccaneer, The	hist-dr-c AYC	2	3	1	Gunfight at Dodge City, The	wes-c AY	
—	2	1	Cat, The (French)	mel A	—	1	8	Gunmen from Laredo	wes-c AY	
—	3	4	Circle, The (British)	mys-mel AYC	—	5	6	Guns, Girls and Gangsters	cri-mel A	
—	7	1	City of Fear	cri-mel A	—	3	2	Gypsy and the Gentleman, The (British)	mel-c A	
—	3	1	Cocktails in the Kitchen (British)	com-c AY	—	—	4	Half Human (Japanese)	sci AYC	
4	13	1	Compulsion	soc-dr A	—	2	9	Hanging Tree, The	wes-c A	
—	2	5	Cosmic Man, The	sci AYC	—	4	4	Hangman, The	wes-c A	
—	1	4	Cosmic Monsters, The (British)	sci-mel AY	—	3	—	Happy in the Bride (British)	com A	
—	10	7	Count Your Blessings	com-c A	—	2	1	Harvest Home (German)	dr A	
—	4	4	Crawling Eye, The (British)	sci-mel AY	—	2	7	He Who Must Die (French)	dr A	
—	3	3	Crime and Punishment, U.S.A.	dr A	—	4	4	Hercules (Italian)	dr-c AYC	
—	8	1	Cry from the Streets, A (British)	dr AY	—	3	3	Heroes and Sinner (French)	dr A	
—	3	—	Dancing Heart, The (German)	mus-com-c AYC	1	7	3	Hey Boy, Hey Girl	mus-com AYC	
—	4	1	Darby O'Gill and the Little People	fan-c AYC	—	2	5	Horrors of the Black Museum	cri-dr-c A	
—	8	—	Devil Strikes at Midnight, The (German)	cri-mel AY	—	3	6	Hot Angel	mel AY	
8	8	3	Diary of Anne Frank, The	war-dr AY	—	7	4	House on Haunted Hill	mys-mel A	

A	B	C		A	B	C		
—	2	4	House on the Waterfront, The (French).....	dr A	1	2	1	Power Among Men..... <i>propaganda-doc A</i>
—	2	1	House Under the Rocks, The (Hungarian).....	<i>war-dr A</i>	—	1	6	Question of Adultery, A (British)..... <i>soc-dr A</i>
—	6	4	I, Mobster.....	<i>cri-mel A</i>	1	11	5	Rally Round the Flag, Boys!..... <i>com-c A</i>
2	7	—	I Was Monty's Double (British).....	<i>war-mel AYC</i>	—	8	6	Remarkable Mr. Pennypacker, The..... <i>dr-c A</i>
1	11	6	Imitation of Life.....	<i>soc-dr-c AY</i>	1	6	2	Ride Lonesome..... <i>wes-c AYC</i>
—	1	3	In-Between Age (British).....	<i>mus-c AYC</i>	2	7	6	Rio Bravo..... <i>wes-c A</i>
4	7	4	Inn of the Sixth Happiness, The (British).....	<i>dr-c AYC</i>	—	1	1	Riot in Juvenile Prison..... <i>soc-dr A</i>
—	9	5	Intent to Kill (British).....	<i>cri-mel A</i>	—	5	1	Roof, The (Italian)..... <i>dr AY</i>
—	—	3	Invisible Invaders.....	<i>sci AY</i>	3	9	4	Room at the Top (British)..... <i>dr A</i>
—	1	4	Island of Lost Women.....	<i>mel AYC</i>	—	8	1	Sad Horse, The..... <i>dr-c AY</i>
1	5	—	It Happened to Jane.....	<i>com-c AYC</i>	—	—	3	Santa Chikita (Greek)..... <i>com A</i>
1	2	—	John Paul Jones.....	<i>hist-dr-c AYC</i>	—	1	3	Secret Place, The (British)..... <i>cri-mel A</i>
—	1	5	Jonas (German).....	<i>dr A</i>	1	7	3	Senior Prom..... <i>mus-com AY</i>
—	14	4	Journey, The.....	<i>dr-c AY</i>	5	10	1	Separate Tables..... <i>dr A</i>
—	7	1	Juke Box Rhythm.....	<i>mus-com AY</i>	3	9	4	Seventh Voyage of Sinbad, The..... <i>fan-c AY</i>
—	3	—	King of the Wild Stallions, The.....	<i>wes-c AYC</i>	1	12	1	Shaggy Dog, The..... <i>fan AYC</i>
—	9	6	Last Blitzkrieg, The.....	<i>war-dr AY</i>	—	1	3	Shake Hands with the Devil..... <i>war-dr A</i>
—	5	10	Last Mile, The.....	<i>cri-dr A</i>	—	2	3	Shameless Sex, The (Italian)..... <i>dr A</i>
2	4	—	Last Train from Gun Hill.....	<i>mel-c A</i>	—	12	5	She Gods of Shark Reef..... <i>mys-mel-c A</i>
—	8	2	Law is the Law, The (French).....	<i>com A</i>	—	11	1	Sheriff of Fractured Jaw, The (British)..... <i>wes-com-c AY</i>
—	—	4	Legion of the Doomed.....	<i>war-dr AY</i>	—	2	1	Silent Enemy, The (British)..... <i>war-dr AYC</i>
—	2	1	Life and Loves of Mozart, The (German).....	<i>mus-dr-c AY</i>	—	4	1	Sinners of Paris (French)..... <i>cri-mel A</i>
—	—	7	Little Savage, The.....	<i>adv-c AY</i>	6	9	2	Sins of Rose Bernd, The (German)..... <i>dr-c A</i>
—	5	4	Lone Texan.....	<i>wes AY</i>	—	7	2	Sleeping Beauty..... <i>car-c AYC</i>
2	6	10	Lonelyhearts.....	<i>dr A</i>	2	9	3	Smiley Gets a Gun (British)..... <i>mel-c AYC</i>
—	—	3	Lost, Lonely and Vicious.....	<i>dr AY</i>	3	9	8	Some Came Running..... <i>dr-c A</i>
—	5	2	Lost Missile, The.....	<i>sci AY</i>	2	10	6	Some Like It Hot..... <i>com-c A</i>
—	4	5	Love is My Profession (French).....	<i>dr A</i>	—	2	5	Sound and the Fury, The..... <i>dr-c A</i>
—	—	6	Machete.....	<i>mel A</i>	—	6	1	Speed Crazy..... <i>mel A</i>
—	2	4	Man in the Net, The.....	<i>mys-mel AY</i>	—	5	4	Step Down to Terror..... <i>cri-mel AY</i>
—	2	1	Man or Gun.....	<i>wes AY</i>	—	5	1	Stranger in My Arms, A..... <i>war-dr AY</i>
—	2	1	Man Who Died Twice, The.....	<i>cri-mel AY</i>	—	5	1	Submarine Seahawk..... <i>war-mel AYC</i>
—	3	3	Marianne of My Youth (French).....	<i>dr A</i>	1	3	1	Taiga (German)..... <i>dr A</i>
—	11	5	Mating Game, The.....	<i>com-c A</i>	—	1	3	Tank Commandos..... <i>war-mel AY</i>
—	1	3	Milkmaid, The (Finnish).....	<i>dr A</i>	6	6	6	Tempeat, The..... <i>dr-c A</i>
—	5	2	Miracle of St. Therese, The (French).....	<i>dr AYC</i>	1	6	7	These Thousand Hills..... <i>wes-c A</i>
—	8	3	Mistress, The (Japanese).....	<i>dr A</i>	—	2	7	Third Sex, The (German)..... <i>soc-dr A</i>
—	3	1	Monpti (German).....	<i>dr-c A</i>	1	3	1	This Earth is Mine..... <i>dr-c A</i>
—	3	—	Most Beautiful Day of My Life (German).....	<i>dr-c AYC</i>	—	—	3	Three Strange Loves (Swedish)..... <i>soc-dr A</i>
1	2	—	Most Dangerous Sin, The (French).....	<i>cri-mel A</i>	—	4	11	Thunder in the Sun..... <i>wes-mel-c AY</i>
—	6	3	Murder by Contract.....	<i>cri-mel A</i>	8	8	6	Tokyo After Dark..... <i>war-dr A</i>
—	1	11	Mustang.....	<i>wes AY</i>	1	8	6	Tom Thumb (British)..... <i>fan-c AYC</i>
—	—	3	My World Dies Screaming.....	<i>cri-mel AY</i>	—	4	4	Tonka..... <i>wes-c AYC</i>
—	4	—	Mysterians, The (Japanese).....	<i>sci-c AYC</i>	—	6	4	Too Many Crooks (British)..... <i>cri-com A</i>
—	2	6	Naked Maja, The.....	<i>dr-c A</i>	—	11	3	Trap, The..... <i>cri-mel-c AY</i>
1	5	8	Never Steal Anything Small.....	<i>cri-mel-c A</i>	—	2	5	Two-Headed Spy, The (British)..... <i>war-mel AY</i>
—	4	4	Nice Little Bank that Should Be Robbed, A (British).....	<i>cri-com AY</i>	—	7	7	Unwed Mother..... <i>soc-dr A</i>
—	4	10	Night of the Quarter Moon.....	<i>soc-dr A</i>	—	2	4	Up Periscope..... <i>war-mel-c AYC</i>
3	6	2	Nine Lives (Norwegian).....	<i>war-dr AYC</i>	3	8	4	Verboten!..... <i>war-dr A</i>
—	4	2	No Name on the Bullet.....	<i>wes-c A</i>	—	7	3	Warlock..... <i>wes-c AY</i>
—	2	1	No Place to Land.....	<i>mel A</i>	—	5	—	Watusi..... <i>adv-c AYC</i>
—	7	3	Nowhere to Go (British).....	<i>cri-mel AY</i>	—	5	3	Westbound..... <i>wes-c AYC</i>
1	3	—	Nun's Story, The.....	<i>dr-c AY</i>	1	1	1	Wild and the Innocent, The..... <i>wes-c AY</i>
—	1	2	Octet (Danish).....	<i>dr AYC</i>	2	3	4	Wild Strawberries (Swedish)..... <i>dr A</i>
—	—	4	Operation Dames.....	<i>war-com A</i>	—	4	—	Witches of Salem (French)..... <i>dr A</i>
—	4	2	Paratroop Command.....	<i>war-mel AY</i>	—	7	5	Woman in the Painting, The (Italian)..... <i>dr AYC</i>
—	—	3	Passport to Shame (British).....	<i>soc-dr A</i>	—	—	World, the Flesh, and the Devil, The..... <i>soc-dr AY</i>	
—	6	1	Pepote (Spanish).....	<i>dr AY</i>	—	3	6	Young Captives, The..... <i>mel A</i>
—	3	—	Plan 9 from Outer Space.....	<i>sci AY</i>	—	5	2	Young Land, The..... <i>mel-c AY</i>
—	6	1	Pork Chop Hill.....	<i>war-dr AY</i>	1	3	1	Young Philadelphians, The..... <i>dr A</i>

## *The Consumers' Observation Post*

(Continued from page 4)

THE PRESENCE OF PENICILLIN IN MILK continues to give trouble. From California comes a report of four cases of allergic reaction to penicillin in dairy products in which the typical reaction was severe urticaria, a skin irritation characterized by the development of wheals, with subsequent burning and itching. Dr. Murray C. Zimmerman of the University of Southern California School of Medicine found that the reaction cleared up after injection of penicillinase (any of several enzymes that are antagonistic to the antibacterial action of penicillin). Where patients had a relapse, he suggested giving up milk, ice cream, and other dairy products, particularly Roquefort and bleu cheese that contain crude penicillin-type molds.

\* \* \*

WHEN THE PICTURE TUBE in your television set goes bad, will it be replaced with a brand new tube or with one that has been rebuilt? According to a report in The Wall Street Journal, rebuilding picture tubes has become big business. RCA has started a campaign to promote its Monogram line of rebuilt tubes to servicemen. The carton containing the tubes carries a label indicating that they have been "remanufactured," but it is doubtful if the customer ever knows whether his replacement is rebuilt or new. The retail price of a "remanufactured" tube of the 21-inch size is around \$13 less than a brand new tube and, it is expected that with an increase in the rebuilding industry, prices may come down further. The tube rebuilders maintain that a "remanufactured" tube properly made has about the same life as a brand new tube.

\* \* \*

HAIR DYES designed for application at home are sometimes based on lead acetate as the essential ingredient. Metallic dyes have lost favor in recent years, partly because they produce an unesthetic shade, make the hair stiff and brittle, and also because of the possibility of danger from absorption of the metal into the body. Old fashions return, however, and a product called Morgan's Pomade put out by Morgan's Pomade Co., Ltd., London, England, has made an appearance. It is designed to be rubbed into the hair and distributed over the hair in small amounts every day until the desired shade is attained. An analysis indicated that essentially the product was lead acetate in petroleum jelly, with a neutral fat and glycerine. It is not recommended either for effectiveness or safety. Any contact of materials containing lead with the body is open to serious question.



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THE BEST MACARONI PRODUCTS are made from durum wheat. This type of wheat is high in protein. It is produced only in a small area and is sometimes in too-short supply to furnish the basic ingredient for all macaroni manufactured. Semolina is the flour ground from durum wheat that is used in top-quality macaroni, but farina from other types of wheat may also be used. At the industry's convention early this year, it was suggested that the durum content should be correctly stated so that the discriminating consumer could select the all-durum or 100 percent semolina macaroni, spaghetti, and noodles instead of making a purchase on a trial-and-error basis.

\* \* \*

THE FRUSTRATION OF A CUSTOMER WITH A SERVICE PROBLEM is a matter of concern to the manufacturer as well as the local dealer. In a speech prepared for delivery at a dealers' conference early this year, Fred Maytag II, president of Maytag Company, commented that the policy of his company was "to solve the service problem...when the product is delivered and manufactured. It is our stated goal to deliver to the dealer a product which he can install in the customer's home with confidence that it will require no major repair for 10 years." Mr. Maytag further noted that his company had a standard one-year warranty on parts and labor and that it was the company's belief that the customer should have completely free service for a year from the date of purchase of any Maytag appliance. Any householder who bought this make and isn't getting the sort of service the company believes in may wish to write Mr. Maytag at Newton, Iowa, to bring the situation to his notice.

\* \* \*

BUYING A SECONDHAND CAR is one way to secure economical transportation. The biggest saving in buying a secondhand car is in the avoidance of the quick depreciation on the brand new automobile. It is estimated, according to one study, that cars selling for \$2000 and \$3000 depreciate about 29 percent the first year, 16 percent the second, 12 percent the third, 10 percent the fourth, and 7 percent the fifth. The minute the car owner drives a brand new model out of the dealer's salesroom it depreciates as much as 25 percent. In some cases it is possible to pick up a good secondhand car for around \$600, but careful shopping is required to get one in good condition. One automobile dealer reported that people are getting tired of bigger and bigger price tags and taking depreciation losses from year to year. He noted that he had sold a particular make of car to a customer for over \$6000 the previous year and the same car turned up on the used-car lot only one year later at a price of \$2700.

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## Consumer Bulletin

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## Staying alive when lightning flashes

LIGHTNING is responsible for approximately 400 deaths and causes injuries, some very serious, to an estimated 1000 persons, each year. If you live in an area where thunderstorms are prevalent, there are steps you can take to avoid becoming one in the long roll of this year's accident or death statistics. Anyone can exercise preventive measures to help protect himself from being struck by lightning.

Lightning, in general, seeks the shortest path to the ground. In the large cities, lightning discharges its tremendous energies upon tall buildings that are equipped with lightning rods. In the open country, where there are no tall buildings or other tall metal structures, as a rule, or even houses, lightning strokes seek out other routes to the earth; the shortest route is usually a solitary tree in an open field or possibly the tallest of a clump of trees or even a person standing in an open field.

Each year many head of cattle and sheep are killed by lightning when they take shelter under a tree in the pasture, and the tree happens to be one that is struck by lightning. Human beings, too, are killed and injured under similar circumstances. Last summer, for example, within New York City limits, three teen-age boys were killed and four others injured while all were standing under a tree which was struck by lightning. At a race meet in England a few years ago, 46 were felled by a stroke of lightning and of these, two were killed.

The following are a few rules to be observed; being guided by these may save your life in a thunderstorm.

Stay indoors if at all possible. Be sure to stay away from and do not handle radio or television sets, lamps, lamp cords, and the telephone. Keep away from plumbing pipes, sinks, bathtubs, radiators, fireplaces, electric appliances, and walls next to a chimney. These objects may carry large electrical potentials and present imminent danger if the house is hit by lightning.



Empire State Building Corporation

If caught outdoors, seek shelter in a large store or building if one is available. It is usually safe to remain in a metal-top automobile, for a steel car will carry the charge to ground around its occupants.

If on open ground, such as a golf course or baseball diamond, do not seek shelter under a tree. (If no suitable shelter is around, the wisest course is to lie flat on the ground well away from trees or other tall objects.)

If fishing or swimming, get off or out of the water as soon as possible. A beach umbrella on an open beach is not a safe shelter, as it presents a good target for lightning.

In any event, when outdoors in a thunderstorm, remember that you must not be the tallest object in the area or be in close proximity to the tallest object in the area. Lightning tends to strike the highest projection above ground in any one area, and anything close to or under that object is likely to share the devastation produced by the lightning stroke.

An interesting and useful discussion of lightning and precautions to be taken for protection from its dangers can be found in the excellent, well-illustrated booklet, "Lightning, Its Behavior and What to Do About It," by H. M. Towne, which is available from the United Lightning Protective Assn., Inc., Box 9, Onondaga, N.Y., at 25 cents.

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